MAY 31, 1954

Let's Budget Car Building . . . p. 32

RAILWAY AGE

The Standard Railroad WEEKLY for Almost a Century

IN THIS ISSUE:

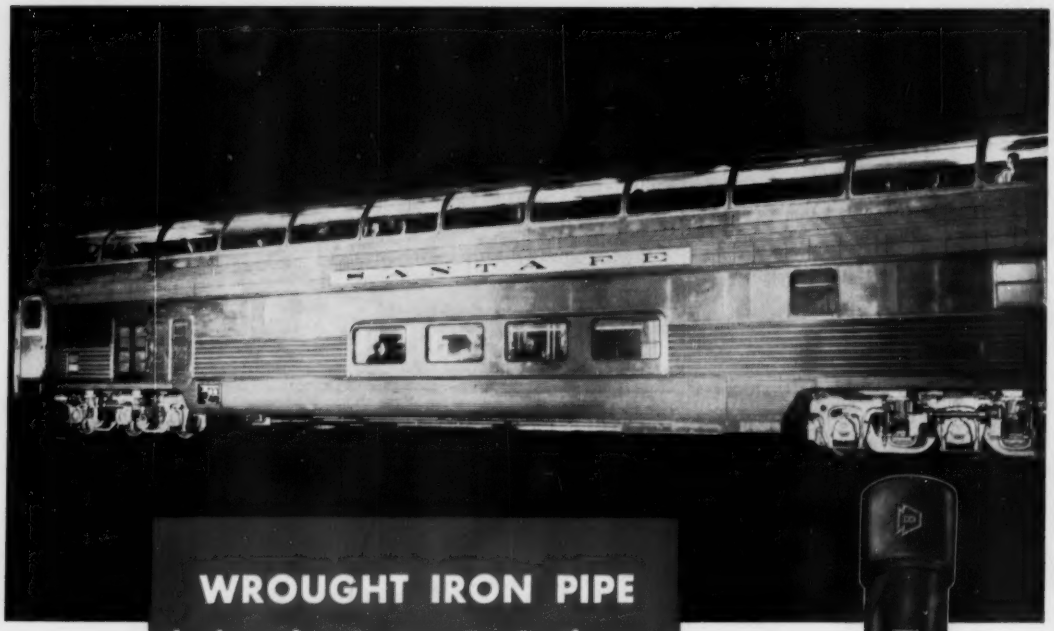
Test Locomotive For N&W

P&S Division Convention Program

Aluminum for Hopper Cars

Flat Cars for Piggyback Service

One or Two Tracks With Southern CTC



WROUGHT IRON PIPE
helps the Santa Fe Railway
answer the
future's challenge

Continuing modernization, a long-standing policy with the Santa Fe Railway, is reflected in the recent addition of 14 ultra-modern full-length dome cars, 45 new streamlined coaches, and 60 baggage, mail and express cars to the Line's fleet. Consistent with this progress is the Santa Fe's practice of building for permanence and performance. One evidence of this is the use of wrought iron for air brake piping, 1¼-inch and above, and 1-inch and ¾-inch branch piping.

This new Santa Fe equipment was built by The Budd Company, Philadelphia, Pa. A view of one of the new dome cars is pictured above.

For complete details on the use of wrought iron pipe and plate in the Railroad Industry, write for our Railroad Folder.

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Truslock's brake head "package" insures complete assemblies wherever and whenever brake head replacements are indicated.

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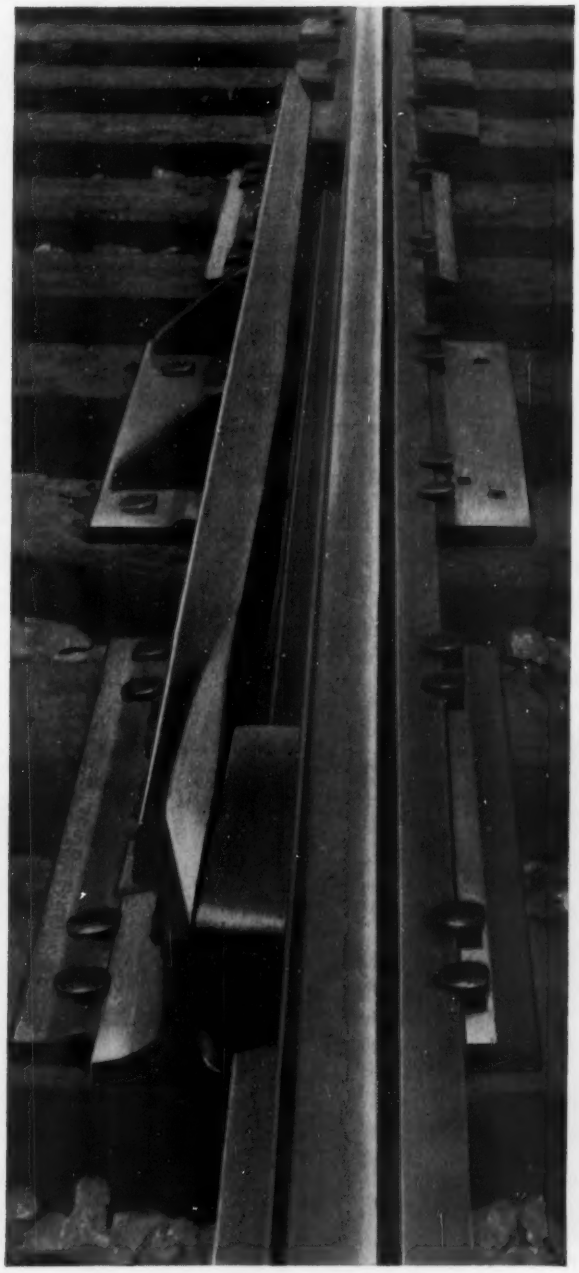
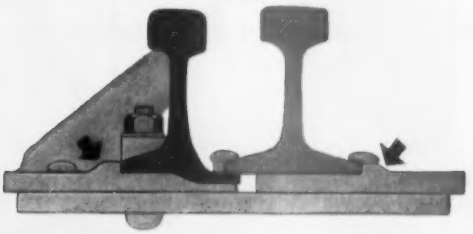
Why this guard rail won't spread ...won't overturn



Here is a guard rail that really stands pat. No shock or side thrust will spread it or make it turn over.

Why won't it spread? A glance at the cross-section sketch gives the answer. The rolled-steel tie plate has a shoulder which abuts the base of the guard rail; a shoulder on the other side of the plate then locks the guard rail in position.



Why won't it overturn? Again check the sketch. Notice the special section of the guard rail, with rolled flange fitting under the running rail. When a train passes over, its rolling weight holds the guard rail down in a vise-like grip. Braces welded to the base plate further add to the stability of the guard rail. The flare on the ends of the guard rail guides the wheels safely into line even at main line speeds.

Heat-treated, high-tensile steel bolts, fitted with lock nuts, hold the guard rail to the tie plates. Foot guards are riveted in place. The whole assembly is shipped as one piece, ready for installation without special tools or adzing of ties. If you want more details about the Hook-Flange Guard Rail, a Bethlehem man will be glad to call and take you to a nearby installation for first-hand inspection.

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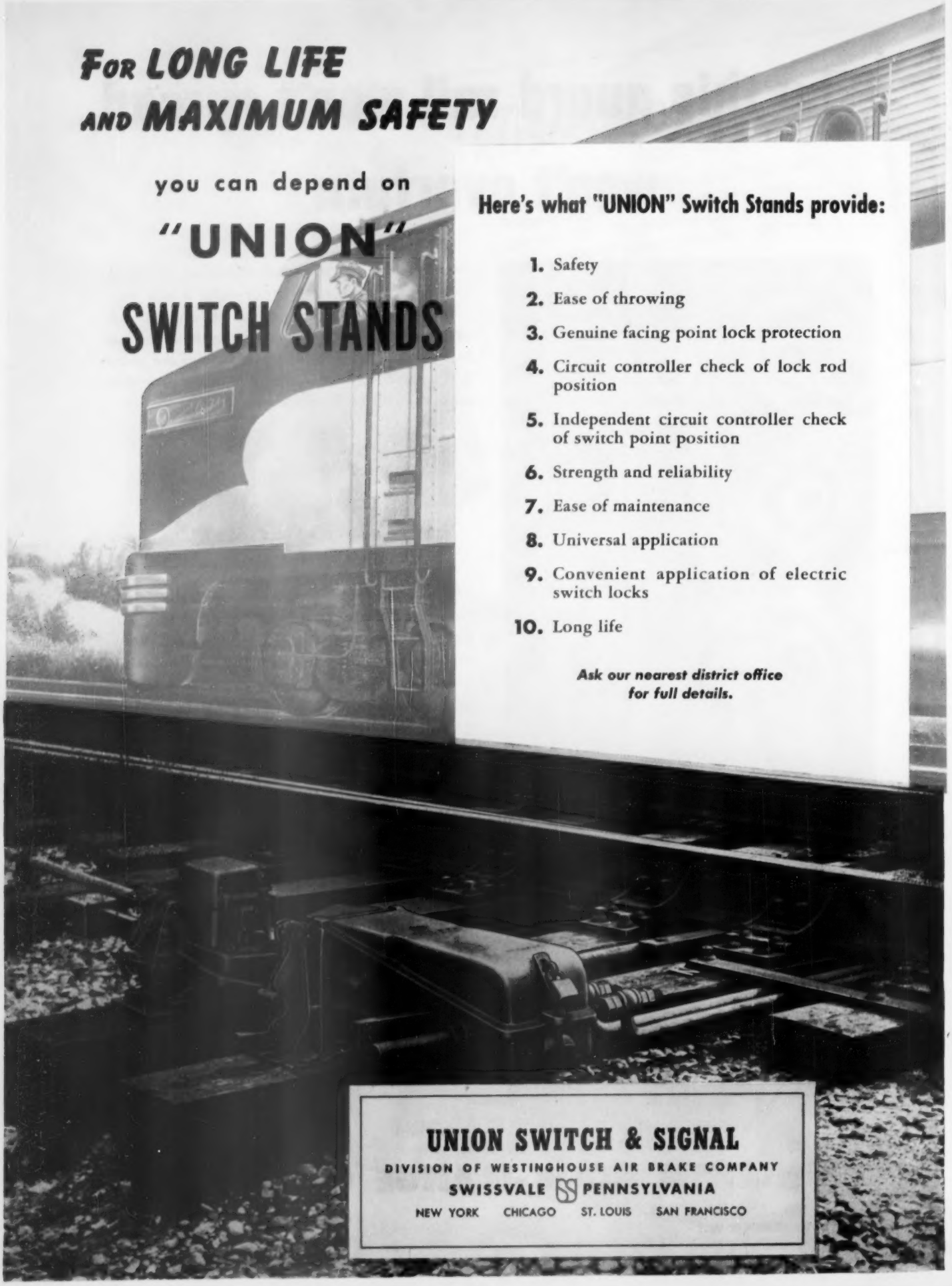

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RAILWAY AGE

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May 31, 1954 **Vol. 136, No. 22**

Week at a Glance

A coal-burning, steam-turbine-electric locomotive, just delivered, will be road-tested soon by the Norfolk & Western. 9

A $58-million modernization program, including 184 new cars, is an essential feature of an agreed plan for ending Long Island bankruptcy proceedings. 11

New head of the Defense Transport Administration is Interstate Commerce Commissioner Owen Clarke. 14

FORUM: Are new skills needed for railway managers? Must they and leaders of other corporations master the "political" techniques seemingly necessary in proxy contests? 31

"Let's budget car building," says Gustav Metzman in pointing out the railroads' greatest current economic waste is their irregularity in acquiring new equipment. 32

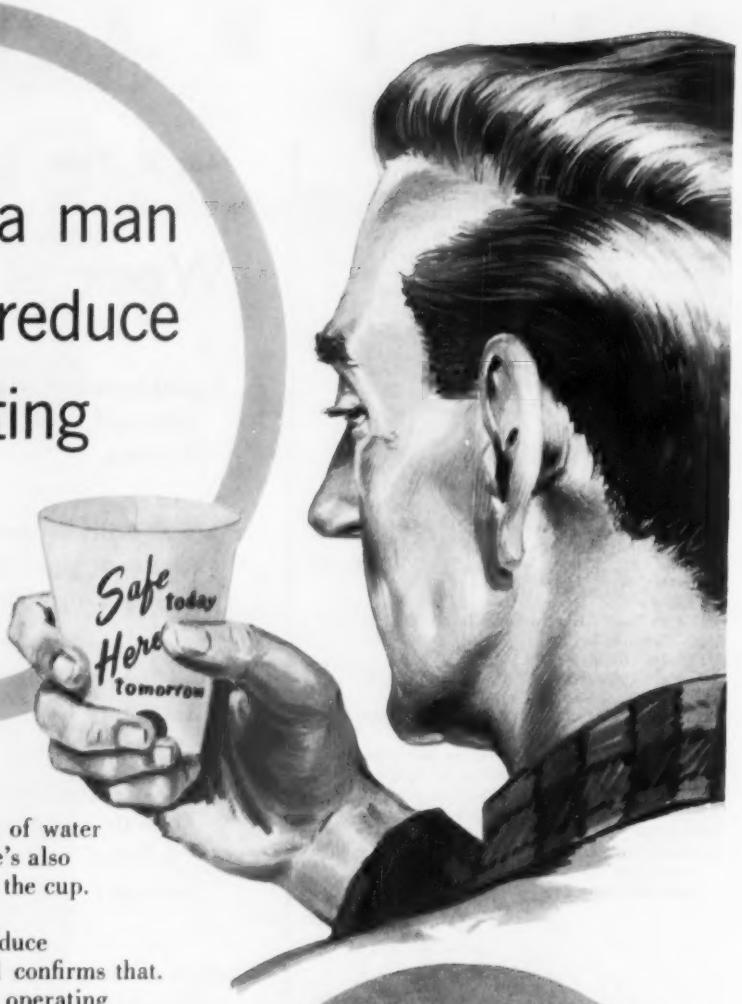
A specially-fitted flat car for piggyback service which can also be used for general freight hauling has reached the "model stage" at Pullman-Standard. 35

Consolidation of station facilities, offices and shops, plus rearrangement of trackage, has speeded train movements and saved money for the ACL at Sanford. 38

Alternate sections of single and double track have replaced continuous double track on 167 miles of the Southern between Ludlow, Ky., and Tateville. No magic involved—just CTC! 40

Use of aluminum alloys in hopper cars offers operating advantages and possible maintenance economies, be-

Portrait of a man helping to reduce your operating costs!



• Sure! — he's getting a drink of water (from a crisp, clean AJAX Cup). But he's also *reading* the safety message imprinted on the cup.

Safety messages *that get read* do help reduce accidents. The National Safety Council confirms that. And you know how accidents affect your operating costs! Fewer accidents, lower costs. So . . .

Use AJAX Cups to put your safety messages in your worker's hand — where he'll see them several times a day, when he's relaxed, receptive, ready to read. (And he'll appreciate the comfort, convenience and complete sanitation of these crisp, clean, easy-to-drink-from AJAX Cups, too.)

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15 DIVISIONS FROM COAST TO COAST

C2-R

Current Statistics

Operating revenues, three months	
1954	$ 2,274,693,935
1953	2,595,625,218
Operating expenses, three months	
1954	$ 1,843,732,954
1953	1,979,735,431
Taxes, three months	
1954	$ 223,909,035
1953	310,785,212
Net railway operating income, three months	
1954	$ 146,620,417
1953	215,444,128
Net income, estimated, three months	
1954	$ 88,000,000
1953	185,000,000
Average price railroad stocks	
May 25, 1954	72.25
May 26, 1953	66.59
Carloadings, revenue freight	
Twenty weeks, 1954	12,259,518
Twenty weeks, 1953	14,166,590
Average daily freight car surplus	
Week ended May 22, 1954	121,545
Week ended May 23, 1953	41,254
Average daily freight car shortages	
Week ended May 22, 1954	307
Week ended May 23, 1953	2,446
Freight cars delivered	
Apr l 1954	4,038
April 1953	6,839
Freight cars on order	
May 1, 1954	17,817
May 1, 1953	62,637
Freight cars held for repairs	
April 1, 1954	102,266
April 1, 1953	94,896
Average number of railroad employees	
Mid-April 1954	1,050,836
Mid-April 1953	1,204,879

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX AND BY THE ENGINEERING INDEX SERVICE. RAILWAY AGE INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE.

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Week at a Glance CONTINUED

cause of the alloys' light weight, mechanical properties and corrosion resistance. 43

BRIEFS

Protest against the ICC proposal to require filing of Section 22 rates on a 30-days-notice basis has been registered by Class I railroads. They advised the commission that such a rule, proposed in the Ex Parte 192 case, would subject them to serious disadvantage in competing for government traffic.

Installation of cab signals in all passenger locomotives operating in the Chicago-Aurora, Ill., area, including suburban service, has been completed by the Burlington.

The ICC has further postponed, from July 1 until October 1, the effective date of its decision in the Ogden Gateway case. Like the others, this new delay was granted at the request of the federal court to which the case has been appealed.

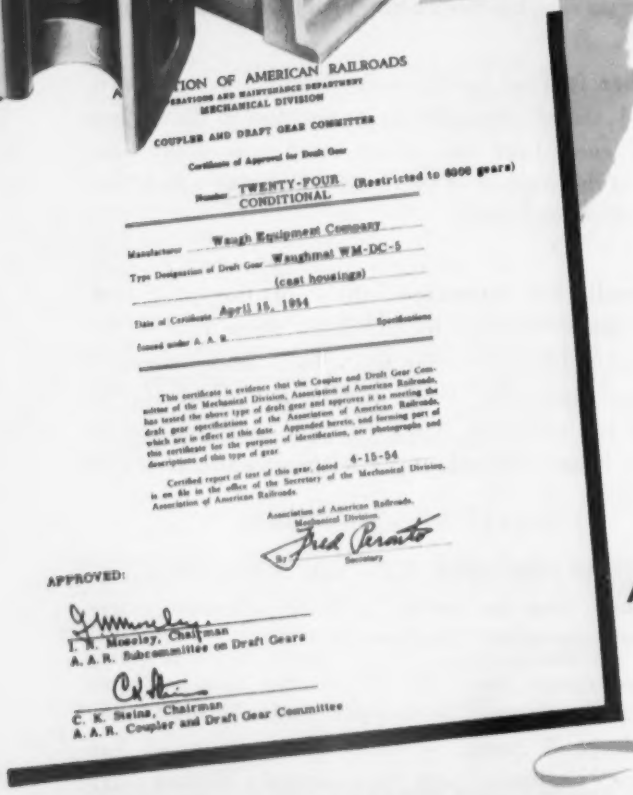
Railroad radio has increased 100% in the past two years. Figures released by the AAR show that 7,736 radio and inductive carrier units have been federally authorized since May 1952, making a total of 16,792 units on 145 railroads. Approximately three-fourths of the radio is on road trains; the remainder in yards and terminals.

"Most railroad regulation today aids railroad competitors rather than the public."—*D. W. Brosnan, vice-president, operations, Southern.*

Extra fare charges will be dropped by the Union Pacific and Chicago & North Western on the "City of San Francisco," beginning June 20, closing out the last extra fare charged on any train by either road. So far, there has been no indication that the Southern Pacific will take a similar step for that portion of the train's run west of Ogden.

NEW WAUGHMAT TWIN CUSHION WINS

A·A·R Certificate of Approval



...TION OF AMERICAN RAILROADS
...RATIONS AND MAINTENANCE DEPARTMENT
MECHANICAL DIVISION

COUPLER AND DRAFT GEAR COMMITTEE

Certificate of Approval for Draft Gear

Number TWENTY-FOUR (Restricted to 8000 gears)
CONDITIONAL

Manufacturer Waugh Equipment Company

Type Designation of Draft Gear Waughmat WM-DC-5
(cast housings)

Date of Certificate April 15, 1954

Issued under A. A. R. Specifications

This certificate is evidence that the Coupler and Draft Gear Committee of the Mechanical Division, Association of American Railroads, has tested the above type of draft gear and approves it as meeting the draft gear specifications of the Association of American Railroads, which are in effect at this date. Appended hereto, and forming part of this certificate for the purpose of identification, are photographs and descriptions of this type of gear.

Certified report of test of this gear, dated 4-15-54 is on file in the office of the Secretary of the Mechanical Division, Association of American Railroads.

Association of American Railroads,
Mechanical Division
By Fred Peronto
Secretary

APPROVED:

I. N. Moseley, Chairman
A. A. R. Subcommittee on Draft Gears

C. K. Steins, Chairman
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Fitting all A.A.R. Standard Yokes, is

INTERCHANGEABLE
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And like all EDISON batteries, the new "MC" is designed and built to give *more than twice the performance life* of other type batteries. Be sure to investigate this new EDISON development today!

If you operate battery electric industrial trucks, or are planning to purchase one soon, be sure to have the complete facts on the new EDISON "MC" type battery. Clip the coupon below and mail it today.

Edison Storage Battery Division
Thomas A. Edison, Incorporated
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West Orange, N. J.

I'm interested in the new MC battery—

☐ Send me complete literature

☐ Have your representative call

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COMPANY_____

ADDRESS_____

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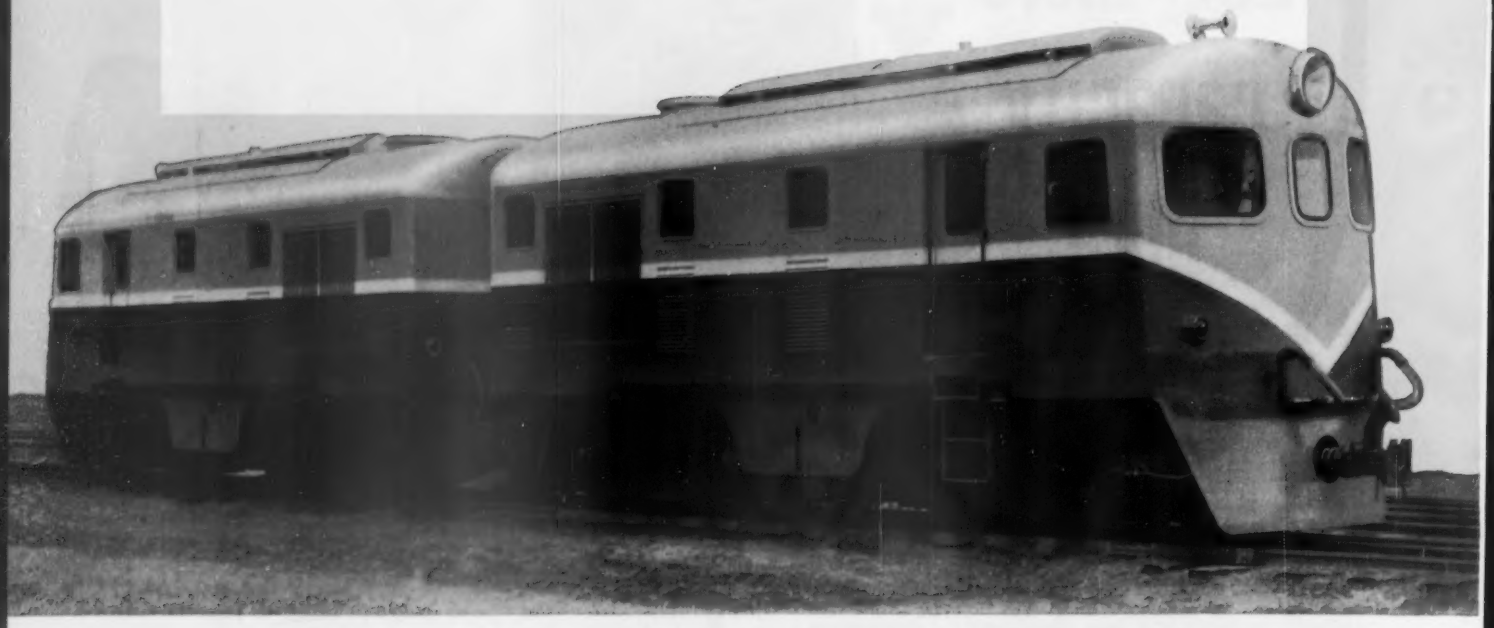
Nickel · Iron · Alkaline
STORAGE BATTERIES

EDISON ALSO MAKES THE FAMOUS "V.P." VOICEWRITER AND THE TELEVOICE SYSTEM

Locomotives for Siam powered by **500-HP Caterpillar Engines**



The twin diesel electric units shown above were built by Davenport Besler Corporation for the Siamese government. Designed for narrow-gauge operation (39⅜"), each locomotive is a compact 29′ 10″ long and 9′ 3″ wide. Over-all height is 12′ 7½″. Weight is 53 tons.

In each unit, power for the traction generator is supplied by a Cat® D397 Railroad Diesel, delivering 500 HP at 1200 r.p.m. Tractive effort is rated at 31,800 pounds at starting speed, 3000 pounds at 50 m.p.h.

Luang Vidikol, chief mechanical engineer for the railroad, expressed complete satisfaction with the performance of the Cat Engines *and* the ready availability of parts and service even in remote areas.

Years of experience have proved to railroad men that high availability and long life are built-in features of Caterpillar Diesels. These engines are designed and engineered to work steadily, year after year, with maximum availability and minimum maintenance.

Leading manufacturers of locomotives can furnish Cat Engines as part of their equipment. *And*, a worldwide Caterpillar Dealer network provides prompt service and a full stock of genuine parts, eliminating the need for heavy parts inventories carried by the railroads.

Your Caterpillar Dealer offers a complete range of 12 engine sizes up to 500 HP, and electric sets to 315 KW. Consult him on your power problems.

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

CATERPILLAR®

SPECIFY CAT POWER FOR HIGH-PROFIT PERFORMANCE

THE NORFOLK & WESTERN'S experimental coal-burning turbine-electric locomotive.

Turbine Locomotive Shipped to N&W

Single-unit 4,500-hp Baldwin-built high-pressure steam-electric burns coal—Will be tested in June

A coal-burning steam-turbine-electric locomotive was shipped from the Baldwin-Lima-Hamilton locomotive works at Eddystone, Pa., to the Norfolk & Western on May 19.

The experimental engine, with tender with coal and water, weighs 586 tons—1,172,000 lb—and is 161 ft, 1½ in. long. It embodies many new factors in design and will undergo extensive road tests on the N&W's mountain divisions before it is pronounced satisfactory for heavy-duty freight service. It was exhibited at a coal show at Bluefield, W. Va., May 26-28. Road tests will be conducted in June.

The project, started almost five years ago, was to develop a powerful locomotive having the inherent flexibility of the electric drive, burning coal and having thermal efficiency to make fuel cost equal to or better than other forms of motive power. The locomotive, No. 2300, is the joint enterprise of the N&W, Baldwin, Westinghouse Electric Corporation and Babcock & Wilcox Co. The latter company designed a water-tube boiler which produces steam at a pressure of 600 psi and 900 deg F, and which burns coal on a traveling grate with continuous ash removal. Automatic controls maintain full boiler pressure as load fluctuates between idling and full.

No. 2300 is rated at 4,500 hp and is designed for a maximum speed of 60 mph. It has maximum rated tractive force of 175,000 lb and a continuous tractive force of 144,000 lb at nine mph. There are four six-wheel trucks with each axle motorized.

Established features include steam-driven air compressors, stoker and steam whistle.

The tender carries only water—22,000 gallons—plus a softening plant. A coal hopper with a capacity of 20 tons is on the main chassis in front of the engineman and fireman, who occupy an enclosed cab directly in front of the boiler. Behind the boiler is the main turbine. The entire power plant is assembled as a single self-contained unit supported on the locomotive frame at three points so its alinement is not affected by distortions of the frame. Behind the turbine are the generator, electrical control and dynamic braking equipment for rear trucks.

ACF OFFERS NEW CAR FOR T-O-F-C SERVICE

C. J. Hardy, president of American Car & Foundry Co., has announced that the company is prepared to offer to railroads an all-welded flat car specially designed to carry highway semi-trailers. The car, of the "well" type, is constructed for side loading, from platform or depressed track. It is 75 ft long over end sills, which will permit loading two standard 35-ft semi-trailers.

Stanchions, similar to a fifth wheel, are provided at either end of the car to engage trailer king pins and hold them stable, back to back, on the well platform. Allowance is made for minor longitudinal movement of trailers to reduce shock to a minimum and to protect lading. Adjustable struts are used to tie down trailer rear ends to prevent side roll.

Freight Fleet Lost 1,223 Cars in April

Fleets of the Class I railroads and their car-line affiliates lost 1,223 freight cars in April, according to figures presented by Chairman A. H. Gass of the Car Service Division, Association of American Railroads, in his latest review of "The National Transportation Situation."

The figures showed that 3,641 new revenue freight cars were placed in service in April, but 4,864 cars were retired. Despite this, the May 1 ownership, 1,853,578 cars, was 6,094 cars in excess of the comparable total for May 1, 1953.

Meanwhile, however, the serviceable ownership on May 1 (1,745,770 cars) was 7,030 cars below that of May 1, 1953. In that connection, Mr. Gass noted that the average daily surplus has recently been in excess of 135,000 serviceable cars.

Detention figures indicated that

Briefly . . .

. . . The new kind of freight car that carries six automobiles instead of the usual four recently made its first delivery of new autos to the New York Central's Kingsbridge freight station in The Bronx, New York. The car, illustrated and described on page 53 of the March 8 *Railway Age*, was designed and built by the Evans Products Company.

15.76 per cent of the cars placed in April were detained beyond the free time of 48 hours. This compared with 15.45 per cent for the previous month, and with 15.85 per cent in April 1953.

"Due to the continued low level of carloadings and the resultant surplus of freight cars," Mr. Gass announced that his review will, until further notice, be issued every other month instead of monthly. The next issue will be that of July 21.

LOCOMOTIVES

The **Bangor & Aroostook** has ordered five 1,750-hp road-switching diesel units from the Electro-Motive Division of General Motors Corporation. Delivery is scheduled for June 1954.

The **Lake Superior & Ishpeming** has ordered one 1,600-hp diesel unit from the American Locomotive Company at a cost of $145,000.

The **Union Pacific** has ordered four 1,750-hp general-purpose diesel units from the Electro-Motive Division of General Motors Corporation at an estimated cost of $700,000. All units will be leased to the **Camas Prairie,** operated jointly by the UP and the Northern Pacific. One unit has been delivered and the other three are scheduled for delivery in mid-June.

FREIGHT CARS

The **Central of Georgia** has ordered 500 50-ft box cars from the Pullman-Standard Car Manufacturing Company at a cost of $3,500,000. Delivery is scheduled for early next fall.

Traffic

ARDA Meets at Salt Lake City

Decentralization of industry, impact of zoning laws, and changes in agricultural outlook principal topics of discussion

"Decentralization is the modern trend in industry, and will be the key to future industrial development activity by the nation's railroads," said E. L. Beardsley, retiring president of the American Railway Development Association, before the organization's 45th annual meeting in Salt Lake City, May 16-19. Mr. Beardsley is director of industrial development for the Denver & Rio Grande Western.

According to the D&RGW officer, "there is a concerted move by industry to build plants at strategic points all over the country." He added that many firms now prefer to locate plants in small cities, so their employees may become a definite part of community life; and predicted that such states as Mississippi, Texas, Tennessee, Arkansas, Utah, Colorado and Oklahoma would become important industrial locations within the next 15 years.

Private Realtors—Industrial development directors of 28 railroads, in a sectional conference of the annual meeting, were told by E. Sanford Gregory, president, Society of Industrial Realtors, that railroads and private industrial realtors can benefit mutually by cooperating with each other. He urged that railroads form a "united front" with members of his organization to combat many of the new zoning laws and land taxes now being enacted by various states, which, he said, "will serve as a decided brake on future development if not halted within the next few years."

Mr. Gregory also pointed out that the "atomic age" would automatically foster decentralization, and that his organization, with railroads, could aid materially in locating strategic industries in "out of the way places" so they would be "as free from attack as possible." He further suggested that railroads give serious consideration to more outright sales of railroad property, to encourage "permanent shippers on your lines."

C. D. Wood, industrial commissioner, Detroit & Mackinac, also warned a combined meeting of railroad industrial and real estate agents that zoning laws are looming more and more as "stumbling blocks" in railroad development work and are now presenting a very important problem, especially in the East.

Property taxes on sales or land holdings were discussed by F. B. Stratton, director of industrial development, Western Pacific, who pointed out that formation of land holding companies could frequently result in important tax savings.

Agricultural Policy—The agricultural section of the ARDA conference changed its viewpoint this year from that of a "farm development policy" to one of "agricultural relations with 'commodity' groups." C. B. Senter, agricultural agent, Texas & Pacific,

IMPROVED PARTS SERVICE to its eastern and export customers, as well as expansion of manufacturing facilities, was achieved recently by the Caterpillar Tractor Company with the opening of its new plant at York, Pa. At the left is an exterior view of the building which houses administrative offices and manufacturing operations at the new plant. Fork trucks (right), are used to store parts in tiers in the 500 x 600-ft building housing the parts-storage and shipping operation. The entire plant includes approximately 770,000 sq ft under roof.

and chairman of the ARDA's Agriculture & Forestry Section, stressed the fact that the "day of farm development is over and it is time we in the field give more attention to agricultural relations. Commodity groups are getting stronger each year and it is our job to keep up with this movement."

According to Mr. Senter, "commodity" groups, such as farm associations, fruit growers, the Grange, Four H Clubs, cattle groups and forestry units have much to offer railroads in new ideas. "At the same time they welcome cooperation and advice of railroads gained through years of experience. Good relations with these groups can and have added to rail tonnage. They control movement of their products more and more each day."

New Officers—R. O. Robertson, general real estate agent, Chesapeake & Ohio, was elected president of the ARDA; P. R. Farlow, general agriculture and forestry agent, Illinois Central, and D. M. Lynn, assistant vice-president, industrial development, Erie, vice-presidents; and E. E. Exon, real estate and tax agent, New York Central, secretary-treasurer. The association's 1955 eeting w'll be held in White Sulphur Springs, W. Va., the first week in March.

Safety

Safety Council Announces Railroad Safety Awards

On-duty accidents took a smaller toll of lives among railroad employees during 1953 than in any other year "in the history of modern railroading," according to Ned H. Dearborn, president of the National Safety Council. In naming group winners of the council's Railroad Employees' National Safety Award, Mr. Dearborn termed the railroads' 1953 accidental death rate a "remarkable record emphasized by the fact "that about as many people" are killed every three minutes in traffic accidents."

Six Class I railroads which were group winners of the National Safety Award had a 1953 employee casualty rate of 55% less than the average rate for all Class I roads. The combined rate of employees killed and injured per million man-hours worked was 3.18 for the six winners, compared with a 7.05 rate for all Class I roads.

The six Class I winners in their respective groups, and their rates, are: Great Northern (3.13); Norfolk & Western (3.33); Nashville, Chattanooga & St. Louis (3.12); Colorado & Southern (3.05); Peoria & Eastern (1.63); and Texas & Northern (zero).

Among divisions of the Pullman Company, the Central operating region had the best record, and among Pullman shop units, the Wilmington, Del., shop was winner. The Ogden Union Railway & Depot Co. was winner in the switching and terminal railroad group whose employees worked over 1,500,000 man-hours. The Conemaugh & Black Lick had the best record among roads working less than that amount.

Financial

New Plan Proposed for Long Island

PRR and LI Transit Authority agree on program to end bankruptcy, and provide $58-million modernization program —Fare increase and tax relief included

Termination of Long Island Rail Road bankruptcy proceedings, and extensive modernization of its property, are provided for in a comprehensive plan revealed May 26 by the Long Island Transit Authority, and agreed to by the Pennsylvania, which owns the LI. A 20% fare increase and substantial tax relief for the railroad are essential features of the plan.

The authority's plan would take the LI out of bankruptcy promptly, end present fare cases before the Interstate Commerce Commission and the New York Public Service Commission, and leave the PSC in full regulatory control for a 12-year redevelopment period. During this period, one-third of the road's board of directors would be residents of the area served. Management headquarters would be re-established at Jamaica, N.Y., under a new full-time general manager, who would reside on Long Island.

184 New Cars—The proposed $58,000,000 improvement program calls for:

(1) Purchase of 184 new passenger cars at a cost of more than $24,000,000. Of these, 125 would be air-conditioned, fluorescent-lighted, single-deck electric cars with foam-rubber, plastic-covered seats for 120 persons; 57 would be cars of the same general type for non-electrified lines, and two would be Budd rail diesel cars for the Montauk branch.

(2) Modernization of 696 existing passenger cars at a cost of more than $21,000,000. Much of this work would be done in PRR shops.

(3) Improvements costing more than $12,000,000 to other railroad facilities. More than half of this would be for rehabilitation and improvement of the road's electrical distribution system, with the balance going for such items as modernizing and re-equipping shops.

The plan calls for approximately half of the 184 new cars to be ordered immediately and the remainder within a year. Modernization of the 696 present cars also is scheduled to begin at once, with almost half the program being completed in three years.

PRR's Part—Under the authority's plan, the Pennsylvania would end the present bankruptcy proceedings and make a new loan of $5,500,000 to the LI to provide a basis for financing the new car program. During the redevelopment period, the Pennsylvania also would forego any payments of dividends or any interest or principal payments on its present investment in the property, assuring use of all available funds to improve the LI. Additional funds to rehabilitate the railroad would be made possible by changes in New York's Railroad Redevelopment Corporations Law of 1951, which the authority recommends be sought immediately at a special session of the state legislature.

Tax Relief—The report suggests a provision which for nine years would exempt the LI from all state and local taxes except real estate taxes. The latter would be frozen at levels at which settlements already have been made with the city of New York and Nassau county, and proposed to Suffolk county. This would reduce the LI's total annual tax bill for all state and local taxes to about $1,800,000.

"This sum," the authority said, "will provide for payment in full of amounts which taxing bodies in New York and in Nassau county have themselves accepted as a fair present tax level, and will make a comparable provision for Suffolk county."

Fare Increase—Under the proposed revised law, the LI, during the redevelopment period, would have the right to charge fares sufficient to meet expenses of running the railroad and of the improvement program, but not to provide for any payment to the owner (PRR) on its pre-existing investment. "This," the authority pointed out, "will insure that all fares paid—after providing for operating expenses, reduced real estate taxes, and grade crossing and existing equipment obligations—will for a long period of years go solely to make a better railroad for the public which pays the fares."

To make this possible, the authority said, the proposed revised law would contain two provisions: (1) An increase, expected to average 20%, in fares at the time the plan becomes effective, as a substitute for pending increases ranging from 20% to 34%; and (2) authority for the railroad to maintain throughout the redevelopment period fares sufficient to carry out the improvement program. Any change in fares would become effec-

tive promptly, without suspension by the PSC, but would be subject to immediate review by the PSC to determine whether it was required for necessary expenses and to carry out the improvement program. The PSC also would have power to reduce fares if the railroad should produce more funds than needed for those purposes.

Revisions in state law recommended by the authority also would provide that all emergency state benefits to the railroad during the redevelopment period would be forfeited if there should be any application by the LI or the PRR to the ICC for fare increases on the LI. This forfeiture would end both tax relief and emergency fare provisions.

Stating the "hard facts" facing the railroad and underlying any plan for it, the authority pointed out that the LI last year produced barely enough to pay state and local taxes, even at the reduced rates at which current real estate taxes were recently compromised by the trustee, and that this year costs of labor, power and rent of freight cars have increased some $2,400,000, while reduction in freight business will cut freight income by about $900,000. There is no hope, the report said, that an authority could borrow the huge sums necessary to acquire the railroad and rehabilitate it.

"Enlightened Self-Interest" — Without agreement by the Pennsylvania, "as virtually sole creditor and owner," the proposed plan "would be only another piece of paper," the authority said, "for certainly no one else is willing to put any new capital into the Long Island." It added that:

"This has been possible because the Pennsylvania has come to realize, as we do, that this presents the most practicable alternative to a prolonged bankruptcy without improvement of the railroad, which would be destructive to the interests of the Pennsylvania as well as to those of the public.

"The Pennsylvania, in agreeing to furnish a large amount of new money to make possible extensive other financing, as well as by omission of any payment to it for a period of years of any return on its existing investment in the railroad of over $100,000,000, is making a genuinely great contribution to the public interest.

"While this action is properly based upon enlightened self-interest, the self-interest is long-range and the public benefit begins at once. In the years that lie ahead, the public will be, not only the principal gainer, but the immediate beneficiary.

"It is self-evident that the present plan is possible because the Pennsylvania is ready to cooperate fully with the state of New York through joining with the state in providing a modernized, adequate railroad."

Walter S. Franklin, PRR president, in announcing his company's agreement, expressed confidence that "this plan, if given the support it will need to be successful, will produce definite improvement in service to the public, although it will require a year or more before real progress becomes apparent." He then continued to say:

"The decision to provide new capital required for the rehabilitation program has been a difficult one, because of the continued losses of the Long Island and the postponement of any chance of financial return to the owners. However, we believe the plan, if carried out as expected . . . will ultimately make the Long Island a self-supporting railroad rendering improved service to the public. . . .

"This program can be successful only with full cooperation by appropriate public authorities, and by the public which the Long Island serves. We trust the majority of people will understand that tremendous sums of money will be required to rehabilitate the property and therefore will realize the importance of supporting the program."

NO DECISION BEFORE JUNE 1 IN NYC PROXY CONTEST

The contest for control of the New York Central was still undecided as this issue of *Railway Age* went to press. The annual stockholders' meeting in Albany, N. Y., on May 26 was opened at noon by President William White and was recessed shortly after 4:47 p.m., when polls were closed, until noon on June 1.

Counting of proxies and ballots to determine whether the road's present management, headed by Mr. White, or the forces led by Robert R. Young, chairman of Alleghany Corporation, will control the Central, was begun by three election inspectors at 9 a.m. on May 27. The counting will continue each day to 8 p.m., until the job is completed.

It was agreed by both sides in the proxy contest that no interim reports would be issued on the ballot counting. Mr. White expressed the hope that when he reconvenes the meeting June 1 he would be able to present the final report of the election inspectors. Meanwhile, the full five-justice Appellate Division of the New York State Supreme Court unanimously refused, on May 26, to enjoin the voting of 800,000 shares of NYC stock purchased from the Chesapeake & Ohio by two associates of Mr. Young's (*Railway Age*, May 24, page 12). The Appellate Division also dismissed as "academic" an NYC motion to postpone the annual meeting.

About 2,000 persons were present at the meeting in Albany's Washington Avenue armory, of whom approximately 1,200 were shareholders. Highest attendance at any previous annual meeting was around 500. The NYC ran a two-section "stockholders' special" from New York City to Albany. Each section had 11 cars: 8 64-seat coaches, two dining cars and one observation car. This was the first time the road had operated two sections of the "special," a service begun in 1950. The first section carried 560 passengers; the second 270.

Investment Publications

[The surveys listed herein are for the most part prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, *Railway Age* lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

Bache & Co., Research department, 36 Wall st., New York 5.

Green Light for Rails. The Bache Listening Post, April 29.

Eastman, Dillon & Co., 15 Broad st., New York 5.

Railroad Round-Up. April 30.

Fahnestock & Co., 65 Broadway, New York 6.

Illinois Central Railroad Co. Weekly Review, May 3.

Hirsch & Co., 25 Broad st., New York 4.

Divergent Patterns Among Rails. June 1954.

THIS TRACK EXHIBIT was a feature of the May 19 dedication of Fairbanks, Morse & Co.'s new $6-million pump plant at Kansas City, Kan. A Santa Fe 1800-hp F-M type road-switcher is shown just ahead of a cut of four flat cars loaded with parts of a 116-in. pump produced at Fairbanks, Morse' Beloit, Wis., works and intended for a U. S. Army Engineers Corps project in the Everglades at Belle Glade, Fla.

Smith, Barney & Co., 14 Wall st., New York 5.

Atchison, Topeka & Santa Fe Railway Company. Railroad Bulletin No. 163, May 3.

Baltimore & Ohio Railroad Company. Railroad Bulletin No. 161, April 20.

Kansas City Southern Railway Company. Railroad Bulletin No. 164, May 5.

1953 Railroad Margins of Safety. Railroad Bulletin No. 160, April 20.

Southeastern Railroads. Railroad Bullletin No. 159, April 13.

Wisconsin Central Railroad Company. Railroad Bulletin No. 167, May 19.

Vilas & Hickey, 49 Wall st., New York 5.

Missouri Pacific Plan. May 11.

Figures of the Week

Freight Car Loadings

Loadings of revenue freight in the week ended May 22 totaled 681,967 cars, the Association of American Railroads announced on May 27. This was an increase of 4,386 cars, or 0.6 per cent, compared with the previous week; a decrease of 87,651 cars, or 11.4 per cent, compared with the corresponding week last year; and a decrease of 79,738 cars, or 10.5 per cent, compared with the equivalent 1952 week.

Loadings of revenue freight for the week ended May 15 totaled 677,581 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, May 15

District	1954	1953	1952
Eastern	114,419	136,741	128,384
Allegheny	123,186	158,546	156,574
Pocahontas	47,818	55,934	52,212
Southern	116,001	129,161	126,387
Northwestern	113,282	127,559	124,480
Central Western	108,322	115,108	109,852
Southwestern	54,553	56,756	56,559
Total Western Districts	276,157	299,423	290,891
Total All Roads	677,581	779,805	754,448
Commodities:			
Grain and grain products	44,588	40,613	42,234
Livestock	7,709	8,095	8,198
Coal	103,962	127,460	117,485
Coke	7,179	14,168	14,558
Forest products	40,709	44,950	40,811
Ore	66,977	87,741	86,427
Merchandise l.c.l.	61,916	69,531	71,694
Miscellaneous	344,541	387,247	373,041
May 15	677,581	779,805	754,448
May 8	647,954	765,411	719,859
May 1	647,925	781,499	744,724
April 24	626,181	779,804	779,489
April 17	612,884	751,628	735,069
Cumulative total, 20 weeks	12,259,518	14,166,590	14,471,622

In Canada.—Carloadings for the seven-day period ended May 7 totaled 68,061 cars, compared with 95,096 cars for the previous nine-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
May 7, 1954	68,061	28,387
May 7, 1953	79,492	33,204
Cumulative Totals		
May 7, 1954	1,192,015	517,077
May 7, 1953	1,319,336	575,275

Law & Regulation

Mackie Answers Demand For "Investigation" of RRs

"Charges against the railroad industry made at a press conference in Washington by Dave Beck, president of the Teamsters Union, are wholly untrue," David I. Mackie, chairman of the Eastern Railroad Presidents Conference, said at New York on May 24.

Mr. Mackie's statement was in reply to a demand, announced at Washington, D.C., earlier that same day, that Attorney General Herbert M. Brownell "launch an immediate investigation of secret railroad subsidies to influence legislation punitive to competitive transportation by truck, air freight and waterways." The demand was made by Mr. Beck as chairman of the Independent Advisory Committee to the Trucking Industry (ACT).

His "demand," Mr. Beck announced, "is the first act of a greatly expanded ACT," enlarged through merger with the Eastern Highway Transport Conference. Directors of the group are Roy Fruehauf, president, Fruehauf Trailer Company; Burt Seymour, chairman of the board, Associated Transport, and Walter Carey, chairman of the board, American Trucking Associations.

Mr. Beck's demand on the Attorney General said in part:

"As members of the trucking industry, we recognize that all forms of freight transportation have an individual and interlocking importance. The railroads, a competitive enterprise, apparently do not agree, as evidenced by their unfair, nefarious, throttling and punitive activities to eliminate trucking from the long distance hauling field. Now emboldened by the trucking industry's lack of concerted resistance to efforts to kill its growing traffic, the railroads have mushroomed their secret activities to include 19 states, as well as the United States itself.

"The Independent Advisory Committee of the Trucking Industry urges that you direct an investigation into secret subsidies to state and national officials by certain railroads, associations of railroads, and their officers, in an attempt to influence legislation inimical to other means of transportation. . . .

"Evidence is in our hands of activities by railroads in many states which in our belief, violate both the law and the tenets of free fair American competition. Use of railroad funds in this manner to preserve a monopoly on freight traffic is within the purview of the Department of Justice. . . ."

Another truck spokesman expressed the "hope" that air and water freight carriers would "join the fight against our mutual oppressors."

Mr. Mackie, in his answer, said in part:

"Transportation is too important to our national wellbeing to be beclouded by unfounded charges such as those made under auspices of this 'independent' committee. Our country needs all kinds of transportation, including trucks. But . . . I suggest that the truckers exercise the mature judgment of which I know their spokesmen are capable and meet their obligations with the type of service we all seek to give rather than through wholly unfounded and unjustifiable attacks on competitors."

Inspection Rules Prescribed For Self-Propelled Cars

The Interstate Commerce Commission has prescribed rules and instructions for the inspection and testing of multiple-unit equipment, i.e., electrically-propelled cars operated by a single set of controls. The rules become effective September 1.

They came out of the commission's Ex Parte No. 179 investigation of the matter. The inquiry was instituted in 1951 after the Brotherhood of Locomotive Engineers and the Brotherhood of Locomotive Firemen & Enginemen had filed petitions asking that present locomotive inspection rules be extended to include multiple-unit equipment.

Fifty-nine rules and five report forms were prescribed in the commission's order which was dated May 18 as was the accompanying report. The latter was a Division 3 report written by Commissioner Clarke.

Previously there had been issued proposed rules—one set in 1952 and revised version last year. Interested unions and railroads submitted presentations with respect to these proposals, and many modifications thus recommended were incorporated in final version, the commission said.

Organizations

P. & S. Meeting in Chicago June 7-9

The 28th annual meeting of the Purchases & Stores Division of the Association of American Railroads will be held in the Grand Ballroom of the Palmer House, Chicago, June 7, 8 and 9. The program follows:

MONDAY, JUNE 7
Morning session—10 a.m.

Call to order by Chairman H. M. Rainie, vice-president, Boston & Maine-Maine Central—Invocation—Remarks by P. A. Hollar, vice-president, assistant to president, AAR—Remarks by Chairman Rainie—Appointment of committees (Resolutions and Memorials)—Action on minutes of 1953 meeting—Communications and announcements—Report of

General Committee—Address by W. A. Johnston, president, Illinois Central.

Committee Reports:

Manual Rules (J. R. Beach, chairman, general storekeeper, Central of Georgia).

Scrap (G. E. Hargreaves, chairman, assistant purchasing agent, Pennsylvania).

Afternoon Session—2 p.m.

Committee Reports:

Reclamation (A. G. Campbell, chairman, district storekeeper, IC).

Material Stock Report (C. E. Woodson, chairman, executive vice-chairman, P & S Division, AAR).

Address by W. M. Keller, director mechanical research, AAR.

Electronic Equipment (A. P. Pollard, chairman, traveling storekeeper, B & M).

Destruction of Records (C. A. Engelbrecht, chairman, agent, purchasing department, PRR).

Petroleum Products and Coal (W. H. Weymouth, chairman, fuel agent, Santa Fe).

Purchasing Operations Analysis (Clement Comly, III, chairman, agent, purchasing department, PRR).

Price Index (G. R. Whitaker, chairman, assistant vice-president, Southern).

Purchasing Department Procedures (W. F. Niehaus, chairman, assistant purchasing agent, Missouri-Kansas-Texas).

TUESDAY, JUNE 8

Morning Session—9:30 a.m.

Annual Essay Contest Committee (Clyde Cocke, chairman, purchasing agent, Norfolk & Western).

Committee Reports:

Material Handling (J. K. McCann, chairman, assistant general storekeeper, Burlington).

Address by W. H. Day, general chairman, New England Shippers' Advisory Board.

Office Supplies and Equipment (J. B. King, chairman, stationery buyer, Union Pacific).

Fire Prevention and Safety (H. F. Mackensen, chairman, district storekeeper, New York Central).

Simplification and Standardization (H. D. Foster, chairman, purchasing agent, Colorado & Southern).

Terminal Storekeeping (A. A. Taylor, chairman, general purchasing agent, Missouri Pacific).

Afternoon Session—2 p.m.

Committee Reports:

Stores Department Procedures (J. C. Windbigler, chairman, traveling storekeeper, M-K-T).

Construction Project Materials (G. A. Balson, chairman, district storekeeper, Chicago & North Western).

Address by C. G. Grove, chief engineer, western region, PRR.

Panel discussion on inventory control: J. S. Fair, Jr., moderator, purchasing agent, PRR.

Forest Products (E. B. Isenogle, chairman, assistant to purchasing and lumber agent, Baltimore & Ohio).

Diesel Parts (H. V. Schiltz, chairman, general purchasing agent, Burlington).

WEDNESDAY, JUNE 9

Morning Session—9:30 a.m.

Committee Reports:

Loss and Damage Prevention (S. A. Furlong, chairman, storekeeper, UP).

Committee on committees.

Steering committee

Address by C. H. Beard, general traffic manager, Union Carbide & Carbon Corp.

Resolutions committee—Memorials committee—Nominating committee—Election of officers—Introduction of new chairman and vice-chairman.

Superintendents Plan Three-Day Chicago Meeting

The American Association of Railroad Superintendents will hold its annual meeting at the LaSalle Hotel, Chicago, June 8-10.

Included in this year's program are two field trips to nearby yards of the Indiana Harbor Belt and the Milwaukee. Another highlight will be a seven-man panel discussion of the "responsibility of the superintendent of transportation and operating superintendent for the efficient use of freight equipment."

The **Pacific Coast Shippers Advisory Board** will meet at Hotel Sainte Claire, San Jose, Cal., June 10-11. Louis R. Kessler, vice-president and general manager, Owens-Corning Fiberglas Corporation, will speak at a dinner sponsored by the **Transportation Club of Santa Clara County** at 6:30 p.m., June 10.

People in the News

Clarke Is Head of DTA

He took over May 24 as successor to Knudson, who left ICC to enter private law practice

Interstate Commerce Commissioner Owen Clarke is now also administrator of the Defense Transport Administration.

He assumed the position May 24, the commission having chosen him to be the commissioner in administrative charge of its Bureau of Service. This assignment for Commissioner Clarke was predicted in *Railway Age* March 29, page 6.

His predecessor was former Commissioner James K. Knudson, who resigned to enter private law practice. DTA functions pursuant to a 1950 Executive Order which delegated the President's defense transport powers to "that commissioner . . . who is responsible for supervision of the Bureau of Service . . ." The commission's announcement of Mr. Clarke's assignment said it "followed White House approval."

Mr. Clarke, youngest member of the commission, was appointed by President Eisenhower last year. At the time of his appointment he was practicing law in Yakima, Wash., but had served as chairman of the Washington Public Service Commission. He had been active in the Eisenhower campaign in Washington.

The commission's announcement noted that DTA is now operating with a small staff, and is scheduled to suspend operations June 30, 1955. "The assignment of the Bureau of Service to Commissioner Clarke's jurisdiction," the announcement also noted, "places under one commissioner the three bureaus which the ICC proposes to consolidate into a new Bureau of Safety and Service, effective June 1."

Knudson's Plans—Mr. Knudson advised President Eisenhower in March of his intention to leave government service, saying also that he was willing to remain until a successor took over, "assuming this can be done fairly soon." No successor to his commission post having been appointed in the two subsequent months, Mr. Knudson told the President, in a second letter (dated May 18), that he desired to make his resignation effective May 22.

His term on the commission expired December 31, 1953, but he continued to serve under provisions of the Interstate Commerce Act which leave a commissioner in office until his successor qualifies. In accepting the resignation, President Eisenhower thanked Mr. Knudson for staying on temporarily.

TAA Consultant—On May 24, the Transportation Association of America

"STUDENTS" at the Fourth National Railroad Police Academy halted classes long enough to pose for a group picture. The academy, held at Chicago May 3-14, was attended by 50 police officers from railroads in this country and Canada. Sponsored by the Protective Section, AAR, the academy trains police officers in the latest techniques of crime detection and qualifies those attending to conduct classes on their own roads.

announced that Mr. Knudson had been apointed its legal consultant on a part-time basis. He will serve as chairman of TAA's legal committee, "assisting particularly with legislative phases," the announcement said.

Mr. Knudson had previously revealed his plans to enter a law partnership with S. S. Eisen (*Railway Age*, May 10, page 9). The firm has offices in New York and in Washington, where

Owen F. Clarke

Mr. Knudson maintains headquarters. The commission announced on May 21 that he had been admitted to practice before it.

Mr. Knudson was appointed to the commission in 1950, and had been DTA administrator from the inception of that agency in the same year. He had previously served as commerce counsel for the secretary of agriculture. Mr. Knudson's photograph and a sketch of his career appeared in *Railway Age* March 22, page 14.

Transport In Good Shape—The retiring DTA administrator's May 18 letter to President Eisenhower included a brief general review of the country's transportation facilities from the standpoint of national defense. Of the railroads, Mr. Knudson had this to say:

"The railroad systems of this country are now in the best physical condition ever and, for the most part, are in sound financial condition. Only a serious decline in traffic or the imposition of extra costs of operation could impair their present optimum operating ability. Their rolling stock has been greatly improved and modernized and other operating facilities have been augmented and improved to the point where the railroads would be much better able to absorb the added traffic of a mobilization effort than they were at the time of Pearl Harbor or Korea.

"They could without difficulty and without serious inconvenience to the public handle both passenger and freight traffic on any scale comparable with that involved in the recent Korean mobilization activity. They would be able, barring any wide scale domestic destruction of their facilities, to handle the first phases of a full scale mobilization effort without overextending themselves or imperiling the national economy. But, if there were to be any prolonged mobilization effort on a large scale, the railroad passenger and freight car supply would be found to be inadequate and there will be some continuing freight car shortages in any event.

"Left in the hands of private management and governed only by a minimum of federal intervention the railroads could, I believe, come successfully through even such an effort, but only at the cost of great sacrifices to our civilian economy. In short, they must be kept strong for the immediate future and they must be made stronger against the contingency of any large-scale emergency."

Motor and Water Carriers—The motor carrier industry, as Mr. Knudson put it, "is in splendid operating condition except, possibly, for the straitened net revenue position of some important carriers. . . . Unjustified or unfair competition must not be allowed to debilitate them." The inland waterway carriers, he appraised as being in "good to excellent condition"; but coastwise and intercoa .al carriers "are still in need of great encouragement if they are to return to anything near their former capacity to handle traffic. . . ."

"In short, Mr. President," Mr. Knudson said in closing, "activities of the Defense Transport Administration for the past 3½ years in appraising, organizing and stimulating preparation for mobilization can be said to have reaped dividends. . . . We are proud of our contribution."

New Facilities

L&N Planning New Yards For Louisville, Birmingham

The Louisville & Nashville has completed preliminary plans for a new $10-million retarder yard and freight station, to replace its present Strawberry yard, near Louisville, Ky. A spokesman told *Railway Age* that, while certain features of the yard are being actively considered, it will probably be late in 1955 before the overall project is started.

A similar project, expected to cost in the neighborhood of $11 million, may get under way at Birmingham, Ala., this year. Plans there call for construction of a 4,000-car capacity yard with 48 classification tracks, 13 receiving, and 12 departure tracks.

Tentative plans for the new Strawberry yard call for 56 classification tracks with a capacity of 2,200 cars; 14 receiving tracks capable of handling 1,200 cars, and a 16-track departure yard with a capacity of 1,841 cars. The freighthouse, to be built on Ashbottom road, will cost approximately $1 million. Of two-story construction and approximately 1,100 feet long, it will replace the present freighthouse at Ninth street and eliminate the handling of stop-off cars between that point and the present Strawberry yard.

The general course of business and international conditions will determine, to some extent, the timing of the Strawberry project. But R. C. Parsons, vice-president and general manager, said the L&N expects substantial expansion of heavy industry between Louisville and Henderson, and in the Louisville area, within the next 10 years.

Great Northern. — Fixed facility improvements authorized by the GN for 1954 include expansion of freight train radio communications between Havre, Mont., and Seattle ($200,000); a new steam power plant for the St. Cloud, Minn., car shops ($300,000); and a powerhouse and machine shop at Somers, Mont. ($100,000).

McCloud River.—The ICC has authorized this road to construct a 22-mile line between Burney, Cal., and Ditch Creek. Division 4's report also authorizes the road to acquire (from the McCloud River Lumber Company) and operate a 10-mile line between Ditch Creek and Pondosa. (*Railway Age*, March 15, page 71.) Still pending before the commission is the road's application for authority to issue $1,500,000 of promissory notes in connection with financing the new construction.

Northern Pacific.—This road has applied to the ICC for authority to construct 5 miles of line and 4,400 feet of spur track in the area between Wheeler, Wash., and Moses Lake. Construction would be financed from treasury funds.

Western Pacific.—To accommodate new traffic from a Ford automobile assembly plant now under construction at Milpitas, Cal., the WP's San Jose line (between Niles and San Jose, 23 miles) is being almost completely rebuilt. Between Niles Junction and a new $1.2-million yard at Milpitas, embankment is being widened and main track reballasted. New 112-lb rail is replacing 75-lb rail over the entire line. Centralized traffic control will bring all signals and switches (except in the yard) under control of the dispatcher at Sacramento. A direct telephone line connecting the WP's San Francisco switchboard with the new yard has been installed. Communications and CTC systems will cost $600,000.

Rates & Fares

ICC Advised to Reduce Hell Gate Bridge Charge

Reduction of the Hell Gate bridge charge from 90 cents to 0 cents has been recommended to the Interstate Commerce Commission by Examiner Charles E. Morgan.

The charge is an arbitrary which is levied for passenger service through

New York City over the Hell Gate route. The revenue goes to the New York Connecting, owner of the Hell Gate bridge.

Operations

High Waters Halt Spokane International

Floodwaters of the Kootenai river, which inundated tracks of the Spokane International at Bonners Ferry, Idaho, halted all the road's freight and passenger operations from May 21 to May 24, when the waters receded. Shortly before press time for this issue, F. C. Rummel, president of the 152-mile road, said damage to the property was light and that service had been restored to normal.

Securities

Illinois Central.—*Stock Split, Stock Option, Approved.*—A proposed 2-for-1 split of common and preferred stock (*Railway Age*, April 26, page 38, and April 5, page 84) has been approved by nearly 85.7% of IC stockholders. Holders likewise approved a proposed stock option plan (*Railway Age*, February 22, page 77) which allows a designated group of 100 employees and officers to purchase up to a maximum of 10,000 shares each.

Applications

CHICAGO, ROCK ISLAND & PACIFIC.—To issue and sell or pledge $16,000,000 of first mortgage, 3% bonds, series B, to reimburse its treasury in part for expenditures made on additions and betterments between January 1, 1950, and December 31, 1953. The bonds would mature January 1, 1984. If sold, the price would be set by competitive bids—but it would be not less than par and accrued interest.

NEW YORK CENTRAL.—To issue $714,000 of promissory notes to finance in part the acquisition, through conditional sales agreements, of 14 steel freight barges from the Bethlehem Steel Company at an estimated unit cost of $67,647. Total cost of the equipment would thus be about $947,058. The notes, bearing interest at 3½%, would be payable in 20 quarterly installments, beginning November 1.

Authorizations

ATCHISON, TOPEKA & SANTA FE.—To issue short term notes in an amount not exceeding $17,000,000 to obtain cash to pay federal income taxes due June 15. The notes, of $500,000 denomination each, would be dated June 14 and mature not later than December 14. They would be issued on a discount basis at a rate equivalent to 1.625% per year.

NEW YORK CENTRAL.—To issue $680,000 of promissory notes to finance in part acquisition of 10 steel deck scows and 6 steel-covered freight barges (*Railway Age*, April 26, page 38). The notes, bearing interest at 3¼%, will be payable in 20 quarterly installments, beginning September 1.

SOUTHERN PACIFIC.—To assume liability for $7,905,000 of Series NN equipment trust certificates to finance in part 35 diesel units, 384 freight cars and 6 passenger cars at an estimated total cost of $10,585,498 (*Railway Age*, April 26, page 38). Division 4's report approved sale of the certificates at 99.7193, with a 2⅝% interest rate—the bid of Salomon Bros. & Hutzler and three associates, which will make the average annual cost of the proceeds to the road about 2.68 per cent. The certificates, dated April 1, will mature in 15 annual installments of $527,000 each, beginning April 1, 1955. They were reoffered to the public at prices yielding from 1.3 to 2.75 per cent, according to maturity.

Security Price Averages

	May 25	Prev. Week	Last Year
Average price of 20 representative railway stocks	72.25	65.58	66.59
Average price of 20 representative railway bonds	94.72	94.89	90.71

Dividends Declared

ALABAMA GREAT SOUTHERN.—ordinary, $4; 6% preferred, $4; both payable June 23 to holders of record May 24.

ATCHISON, TOPEKA & SANTA FE.—$1.25, preferred, payable August 2 to holders of record June 25.

BEECH CREEK.—50¢, quarterly, payable July 1 to holders of record June 2.

CHICAGO GREAT WESTERN.—5% preferred, 62½¢, quarterly, payable June 30 to holders of record June 23.

CHICAGO, ROCK ISLAND & PACIFIC.—common, $1.25, quarterly; 5% preferred A, $1.25, quarterly; both payable June 30 to holders of record June 14.

DELAWARE & BOUND BROOK.—50¢, quarterly, paid May 20 to holders of record May 13.

ERIE & PITTSBURGH.—7% guaranteed, 87½¢, quarterly, payable June 10 to holders of record May 28.

GREAT NORTHERN.—$1, payable June 18 to holders of record May 24.

GULF, MOBILE & OHIO.—common, 50¢, quarterly, payable June 10 to holders of record May 21; $5 preferred, $1.25, quarterly, payable December 16 to holders of record November 26.

MINNEAPOLIS & ST. LOUIS.—30¢, quarterly, payable June 10 to holders of record June 2.

MISSOURI-KANSAS-TEXAS.—7% preferred A, $1.25, accumulation, payable August 2 to holders of record July 16.

MOBILE & BIRMINGHAM.—4% preferred, $2, semiannual, payable July 1 to holders of record June 1.

NEW YORK & HARLEM.—common, $2.50, semiannual; 10% preferred, $2.50, semiannual; both payable July 1 to holders of record June 4.

NEW YORK, CHICAGO & ST. LOUIS.—common, 75¢, quarterly; cumulative preferred, $1.50, quarterly; both payable July 1 to holders of record May 28.

PHILADELPHIA, GERMANTOWN & NORRISTOWN.—$1.50, quarterly, payable June 4 to holders of record May 20.

ST. LOUIS-SAN FRANCISCO.—62½¢, quarterly, payable June 15 to holders of record June 1.

SOUTHERN PACIFIC.—75¢, quarterly, payable June 21 to holders of record June 1.

TENNESSEE, ALABAMA & GEORGIA.—25¢, payable June 15 to holders of record May 28.

VIRGINIAN.—62½¢, quarterly, payable June 15 to holders of record June 1.

Railway Officers

CHESAPEAKE & OHIO.—J. P. Donovan, assistant freight traffic manager at Detroit, has been appointed freight traffic manager at San Francisco. **W. L. Granzen** and **Aubrey O'Herron** have been appointed assistant freight traffic managers at New York and Detroit, respectively. **J. C. Singer, Jr.,** has been named staff assistant, office of freight traffic manager, Detroit. **W. H. Trent** has been appointed general agent at Winston-Salem, N.C.

Russell A. Kirkpatrick, general claim agent of the Pere Marquette district, retired April 30.

ROCK ISLAND.—R. E. Johnson, assistant vice-president — operations, who has been elected vice-president—operations, at Chicago (*Railway Age*, May 3).

PENNSYLVANIA. — G. C. Vaughan has returned to Baltimore as superintendent of the Maryland division. **F. B. Kraus,** who has been acting superintendent of the Maryland division since February, has returned to his post as supervisor of exports at Baltimore.

PEORIA & PEKIN UNION.—Edward F. Stock, general traffic manager at Peoria, retired April 30, after 50 years of service. Work formerly handled by Mr. Stock has been assigned to **L. R. Barnewolt,** agent at Peoria.

SANTE FE.—H. C. Willis, who has been on leave of absence, has resumed his former position as division superintendent at Arkansas City, Kan., succeeding **J. H. Blake,** who has been appointed acting division superintendent at Slaton, Tex., succeeding **H. O. Wagner,** who has been granted a leave of absence. **L. R. Mitchell,** trainmaster at El Paso, returns to the position of trainmaster at San Angelo, Tex.

H. E. Anderson, division master mechanic at Albuquerque, N.M., has been transferred to Slaton, to succeed **John L. Fertig,** transferred. Mr. Anderson's successor is **D. J. Everett,** superintendent shops at Albuquerque, whose title becomes superintendent shops—master mechanic.

OBITUARY

A. S. Hunt, 61, chief engineer communications and signals of the **Baltimore & Ohio,** at Baltimore, died May 25, in Grand Central Terminal, New York, while on a business trip.

William J. Wilson, retired design engineer of the **Union Pacific,** died May 20 at Omaha.

SAFETY and COMFORT

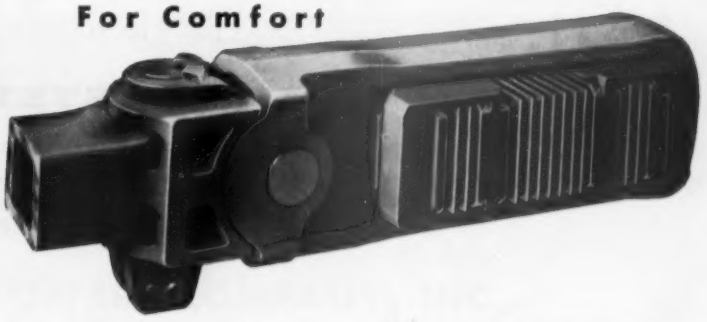
There's built-in safety in National Quality-Controlled Tightlock couplers; and there's solid riding comfort in National Multi-Pad rubber draft gears with their consistent and continuous cushioning, whether in pull or buff.

A-9565

For Safety

National Quality-Controlled Tightlock couplers and yokes

For Comfort



National Multi-Pad rubber cushioned draft gears

National Multi-Pad rubber gears fit all Standard AAR yokes and standard car construction!

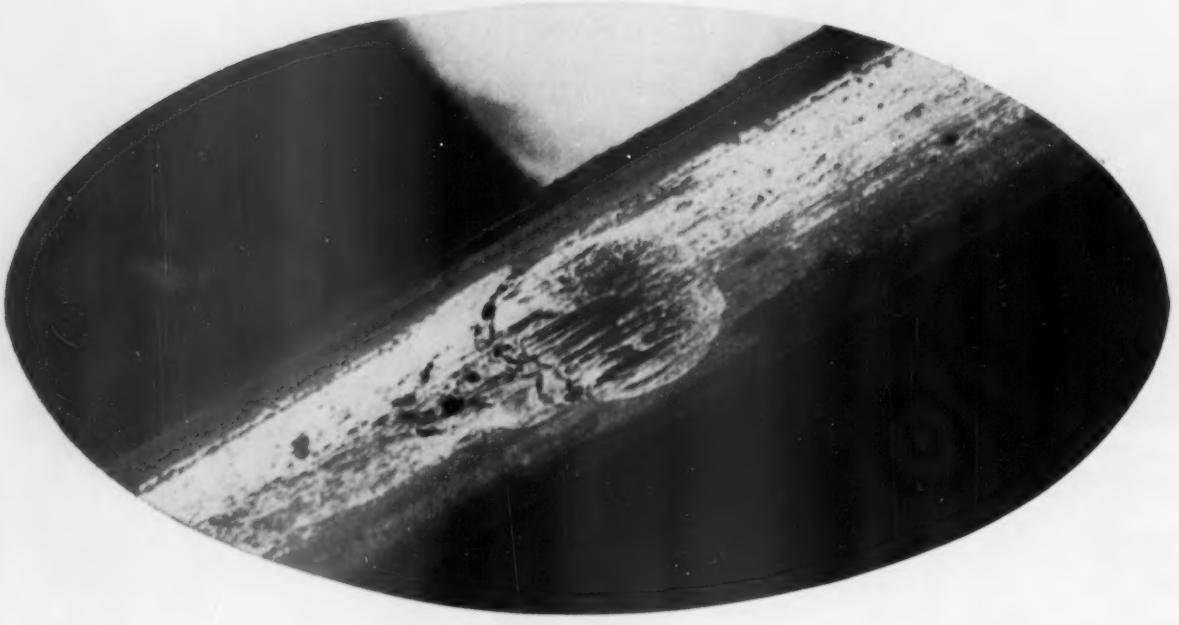
NATIONAL MALLEABLE and STEEL CASTINGS COMPANY

Cleveland 6, Ohio

COUPLERS · YOKES · DRAFT GEARS · FREIGHT TRUCKS · SNUBBER PACKAGES · JOURNAL BOXES AND LIDS

Will your motive power investment

buy RAIL BURNS



or Effective power?

TRAIN MASTER

. . . has the horsepower, the traction motor capacity and the adhesion that assure you effective power—instead of rail burns.

Your soundest motive power investment is in

TRAIN MASTER

leader in today's trend toward more powerful . . .
more useful Diesel motive power.

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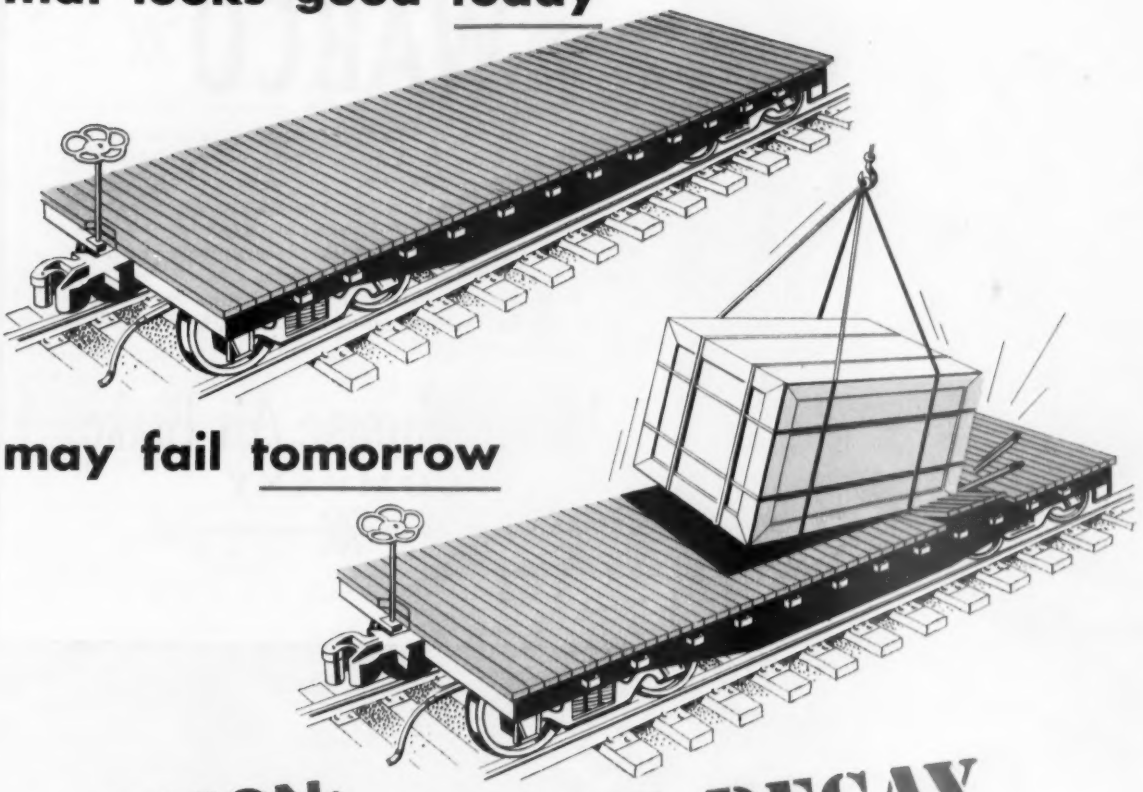
a name worth remembering when you want the best

DIESEL LOCOMOTIVES AND ENGINES • RAIL CARS AND RAILROAD EQUIPMENT • ELECTRICAL MACHINERY • PUMPS • SCALES • WATER SERVICE EQUIPMENT • HAMMER MILLS • MAGNETOS

Untreated Wood Decking that looks good today



may fail tomorrow

REASON: INVISIBLE DECAY

UNTREATED wood decking when first installed is strong and tough. It stays strong and tough until attacked by decay. Once decay fungi gets started—even before it can be seen—wood is robbed of some of its natural strength. During early stages of decay, there is little, if any, visible change in appearance. The wood decking still *looks* strong. Actually it has lost much of its strength and impact resistance. This invisible decay is costly. The strength you count on may not be there when you need it.

Koppers pressure-treatment protects sound wood from destructive agents like decay and insects. Life-preserving chemicals, forced under pressure deep into the wood, make it toxic to decay. Breakage in car lumber from weakened wood can be virtually eliminated.

Reports from railroads prove that, because of the many added years of service life, the average annual cost of Koppers Pressure-Treated Wood Decking is conservatively estimated at about ⅓ that of untreated wood decking. This was calculated on the basis of installed costs, length of service, and repairs and replacements.

Find out how much you can save your railroad each year through the use of Koppers Pressure-Treated Wood. Write us for more information, or a free analysis of your lumber problems.

KOPPERS®

KOPPERS COMPANY, INC.

PRESSURE-TREATED WOOD

Wood Preserving Division, Pittsburgh 19, Pennsylvania

The packing cup with a pedigree

WABCO®

Check the numbers on a Wabco® packing cup or gasket. You'll find the date of manufacture, piece number and even the mold number embossed on each piece.

Wabco packing cups and gaskets give exceptionally long service year in and year out. Re-order the same molded-in piece number with the assurance you'll receive the same high quality product.

For maximum service life, standardize on genuine Wabco products—the renewal parts with the built-in pedigree.

Westinghouse Air Brake
COMPANY
AIR BRAKE DIVISION WILMERDING, PA.

Supply Trade

Peter L. Pantarotto, research analyst of the Gerrard Steel Strapping division of the **United States Steel Corporation,** at Chicago, has been named general sales staff manager to succeed **Leonard A. Kuckie,** resigned.

James A. Carlson, assistant to president of **Westinghouse Air Brake Company,** has been appointed assistant vice-president for sales coordination. **Albert E. Dassonville** has been named representative in the western district for the Air Brake division, at Chicago, where he previously served in various capacities.

General Steel Castings Corporation has elected **Howard F. Park, Jr.,** as vice-president, sales; **J. Harvey Johnston** as vice-president; **Richard T. Risk** as treasurer, and **George K. Hoblitzelle** as secretary.

Koppers Company has purchased substantially all stock of **American Lumber & Treating Co.,** thereby acquiring 10 wood treating plants located in various parts of the country.

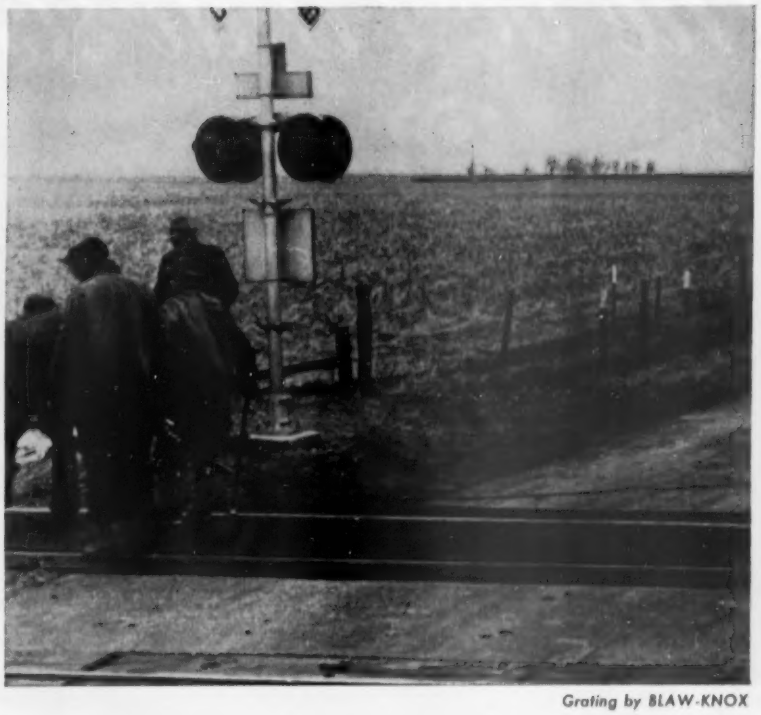
H. A. Kern, president of **National Aluminate Corporation,** also has been elected chairman, succeeding the late **A. Watson Armour.** New senior vice-president is **F. H. Thorne,** who replaces **Wilson Evans,** retired, but who will continue to serve the Railroad division in a consulting capacity. **J. L. Gibboney,** vice-president, has succeeded Mr. Evans as head of the Railroad division and director of export operations and foreign subsidiaries.

Beaumont Iron Works Company, Beaumont, Tex., has been formally merged into its parent corporation, **American Locomotive Company.** It is now an Alco plant, with the parent company taking over trademarks and other legal rights which had belonged to the wholly owned subsidiary.

Thomas I. Moore, assistant western sales manager, **Rail Joint Company,** has been promoted to western sales manager at Chicago, succeeding **Harry Hickey,** deceased.

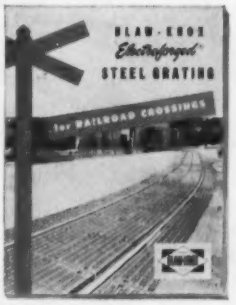
W. D. Lease, manager of sales promotion, **Athey Products Corporation,** has been elected vice-president, sales; **R. W. Kling,** chief engineer, has been elected vice-president, engineering; and **C. E. Matthews,** manager service and parts, vice-president in charge of that department.

Chet Menkes, formerly on the engineering staff of the Signal Corps Engineering Laboratories at White Sands Proving Grounds, N.M., has joined the **Hammarlund Manufacturing Company** sales organization at New York.



Grating by BLAW-KNOX

• reduces track maintenance
• promotes public goodwill



Want more complete information? Just write for your copy of new Booklet No. 2448 . . . or send your dimensional sketches for a quotation.

GRATING APPLICATIONS: crossings • walkways • running boards • steps • tower platforms fan guards • shelving • floors • catwalks • stair treads • and many other uses for versatile steel grating

Modern steel crossings, because of low maintenance, save the difference in initial cost over ordinary wood gratings in about five years. And at the same time build up a lot of public good will.

CROSSINGS OF BLAW-KNOX ELECTROFORGED® STEEL GRATING

—are easily installed and maintained—takes only two men to remove sections for tamping tracks, cleaning ballast, renewing ties

—provide good drainage, permit quick evaporation of snow and water, are easily kept clean

—last as long as the rails

—promote public goodwill

Blaw-Knox Railway Equipment Representatives
Railroad & Industrial Products Company
Chicago, Illinois
H. S. Russell — R. S. Russell
The Milliken Company, Roanoke, Virginia
Robert J. Wylie Company, St. Paul, Minnesota
T. F. Carlin, North Chevy Chase, Maryland
J. M. Moore, Denver, Colorado
Brodhead Steel Products Company
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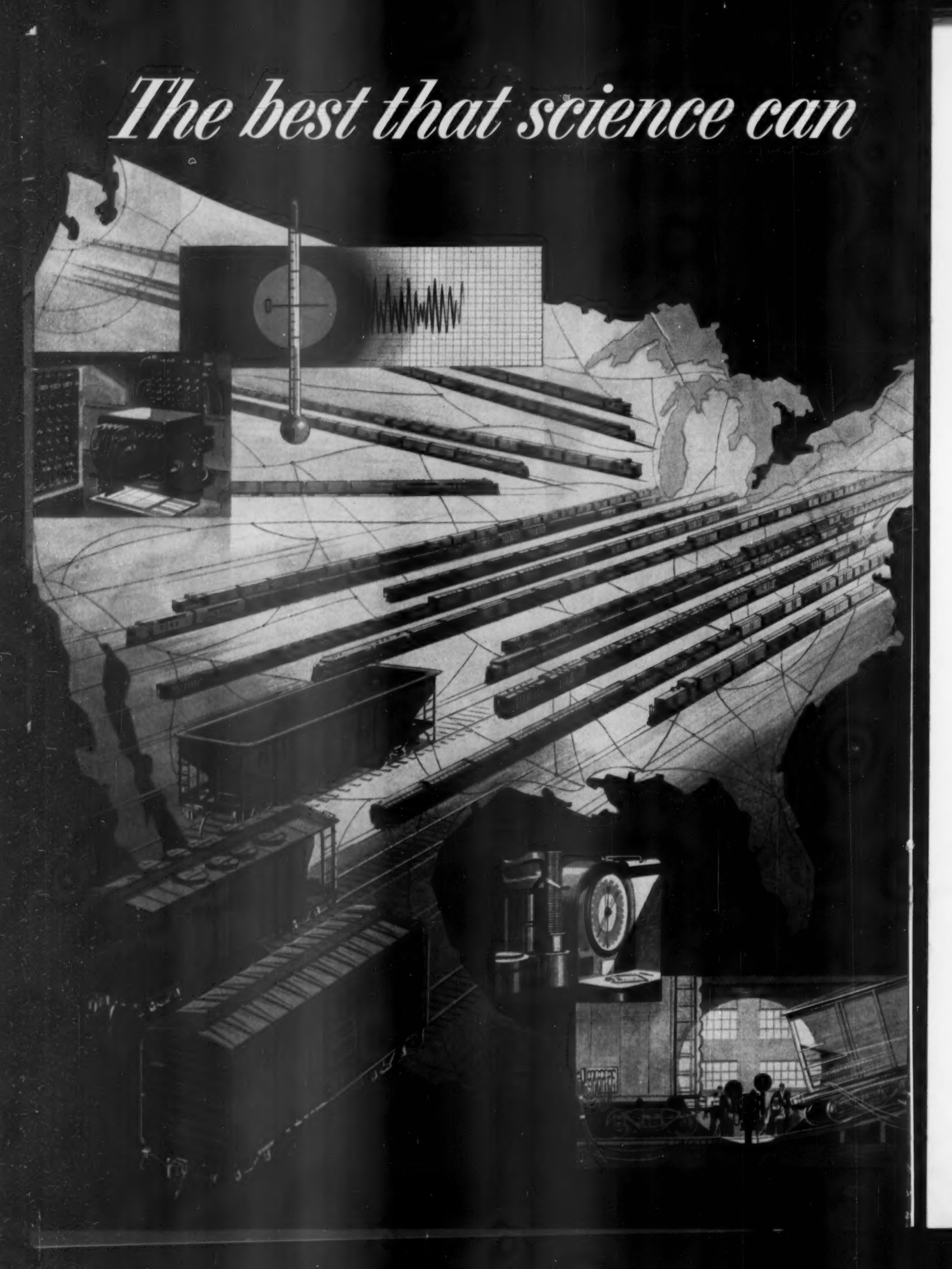
BLAW-KNOX COMPANY
2123 Farmers Bank Building, Pittsburgh 22, Pa.

BLAW-KNOX

BLAW-KNOX EQUIPMENT DIVISION
GRATING DEPARTMENT

The best that science can



offer is none too good

for the

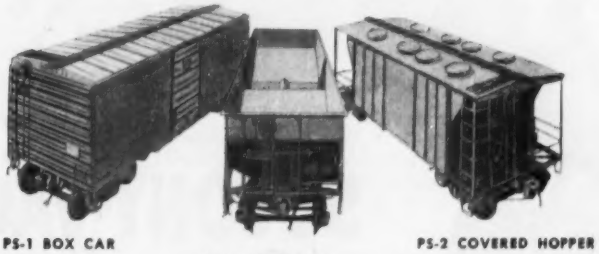
A typical box car (according to the A. A. R.) moves, in one year, on 39 different railroads, including two or more trips on 24 roads.

Therefore freight cars *should* be designed and built to operate efficiently and economically, wherever they are sent to earn revenue.

That is why Pullman-Standard uses every tested industrial science in designing and building the PS-1 Box Car, the PS-2 Covered Hopper Car, and the PS-3 Hopper Car . . . why new techniques of electronic analysis and computation are followed . . . why new methods of welding and metal testing are used . . . why new processes of precision construction are applied.

By adding new industrial sciences to the old, by combining them with the skills of experienced manpower, by taking full advantage of improved materials and specialized tools, quality cars are built at lower cost—cars to best serve the railroads, in earning greater revenue, anywhere on the Great American Railway System as well as on the lines of the purchasing road.

Built to serve best on the
GREAT AMERICAN RAILWAY SYSTEM



PS-1 BOX CAR

PS-3 HOPPER CAR

PS-2 COVERED HOPPER

YOUR NEEDS CREATE THE PULLMAN "STANDARD"

PULLMAN-STANDARD

CAR MANUFACTURING COMPANY
SUBSIDIARY OF PULLMAN INCORPORATED
79 EAST ADAMS STREET, CHICAGO 3, ILLINOIS
BIRMINGHAM, PITTSBURGH, NEW YORK, SAN FRANCISCO, WASHINGTON

RIGHT DIET FOR DIESELS...

Gargoyle Diesel lubricating oils contain all four properties essential for efficient engine operation!

Yes, Gargoyle Diesel lubricating oils are "just what the doctor ordered" for today's high-speed engines!

We cooperated closely with operators and builders to develop these oils—made exhaustive field evaluations and laboratory tests. Today—on every major road—these oils are *proving* their ability to keep Diesels running at top efficiency!

Let our products, experience and research facilities help improve *your* operations. Just give us a call.

Railroad Lubricants

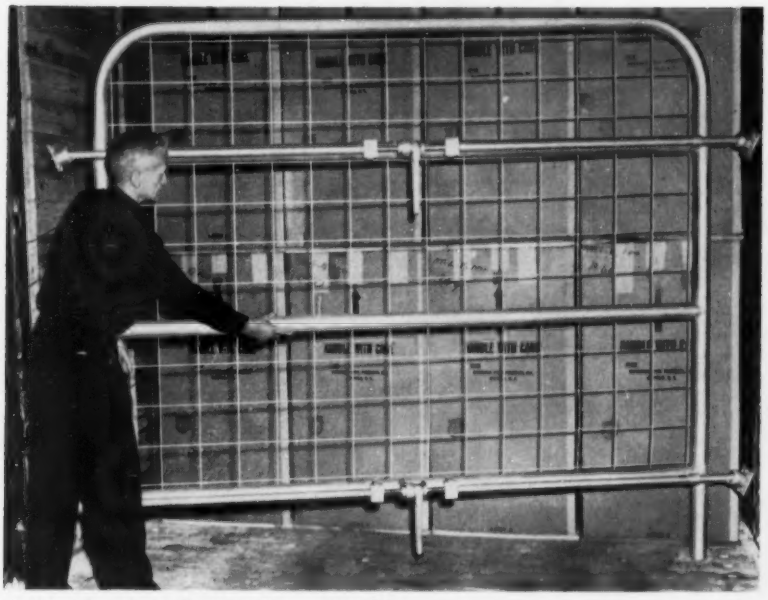
SOCONY-VACUUM

Correct Lubrication

WORLD'S GREATEST LUBRICATION KNOWLEDGE AND ENGINEERING SERVICE

SOCONY-VACUUM OIL COMPANY, INC., Railroad Division, 26 Broadway, New York 4, N.Y.

What's New in Products



Bulkhead with steel prong-type grip plates.

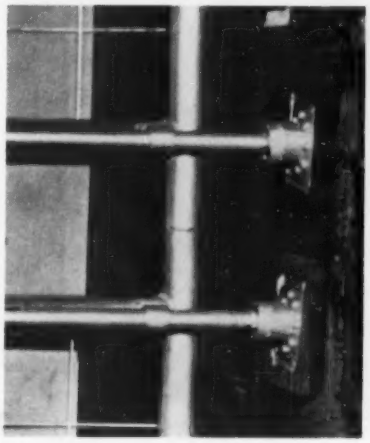
Self-Gripping Bulkheads

An improved type of bulkhead for the protection of lading in box cars, known as the Impact Master barricade, is being marketed by the Brandon Equipment Company, Chicago. One style utilizes a steel prong grip plate which engages the side of the car, and the other has a rubber friction grip. Both types have a patented swivel joint at the end of the extension arms for good contact with the car lining even though the bulkhead may be placed in the car in a diagonal position. In the steel prong type, the swivel joint arrangement is said to prevent damage to the car lining by compensating for vibration and weaving of the car body.

The frame in both types is of tubular steel construction and each is equipped with two sets of extension arms which are extended or retracted by a ratchet at the center of the cross-members which can be operated by one hand when installing the bulkhead.

The rubber friction grips are for use in refrigerator cars where penetration or abrasion of the car lining is not permissible. Service tests showed that the rubber friction design has resistance to impact equal to the steel prong type and in addition is able to move or "give" slightly under severe shocks and still maintain maximum holding capacity.

Models are available in both box and refrigerator car widths. There is also a duplex model which is approxi-



Close up of rubber friction-type grip plates.

mately one-half the height of standard models. Two of the duplex models can be assembled to make a barricade of full height when desired •

Weatherproof Fiberglass Covered Line Wire

A new type of weatherprof line wire, in which the outer braid is glass yarn, has been announced by the Rome Cable Corporation, Rome, N. Y. This Triple Knit weatherproof wire is now available in sizes No. 14 through 4 AWG. The glass outer braid is inherently resistant to moisture, heat, chemical action, and abrasion. Not only do the glass fibers resist the absorption of moisture, but they also do not serve as "channels" to conduct moisture beneath the surface.

The glass yarns are reported to have a tensile strength several times higher than comparable organic fibers, and retain that strength indefinitely. The fibers are not affected by oils, and are resistant to most chemicals. This makes the braid an exceptionally durable support for asphalt coatings, and gives an advantage in locations where chemical vapors are prevalent•

Explosion-Proof Light Fixture

An explosion-proof lighting fixture with prismatic Holophane reflector now available provides for good illumination in locations where explosion-proof fittings are required.

Developed cooperatively by Crouse-Hinds Company, Syracuse, N. Y., and Holophane engineers, the new EV series lighting fixture is said to compare favorably in lighting characteristics with ordinary non-explosion-proof fixtures. According to the manufacturer, when equipped with an inside-frosted 5,900-lumen, 300-watt lamp, it delivers a total light efficiency of 72.3 per cent. Only a small portion of light is transmitted upward through the glass reflector. Most of the light rays striking the reflector's surface are refacted directly downward to the work area. These effects provide good il-

(Continued on page 29)

YOUR OLD LOCOMOTIVES CAN BE MODERNIZED

at a cost of about 6¢ a mile

Figure it this way: If you have an older model Diesel locomotive with about 600,000 miles on it, you can have it modernized by Electro-Motive for approximately 6¢ per elapsed mile.

This price includes complete rebuilding of major components such as engine, generators, traction motors and control apparatus. And we do more than simply restore the original mileage. For in rebuilding worn components we incorporate many of the latest advances in design that go into current locomotive manufacture. Thus, every locomotive we rebuild leaves our factory a better unit than it was in the first place—with increased efficiency, higher capacity and longer useful life.

Through this program, F3 units due for 600,000-mile overhaul can be *modernized*—have the original mileage built back in—at little more than the cost of simply overhauling. And Electro-Motive's policy of making improvements applicable to old models means you get back a locomotive that incorporates the latest standards of service life and maintenance reductions.

After full inspection of the locomotive, exact details of the work to be performed are agreed upon in a conference between your representatives and our Rebuild Staff. Range estimates are given, and the rebuilding of major components is billed in accordance with Electro-Motive's published flat-rate charges—*charges that are the lowest you'll find anywhere!*

All Electro-Motive rebuilds, whether complete locomotives or individual components, carry the same warranty as new units—in many cases, double the warranty they had in the beginning. If you'd like further information on any phase of our Rebuild service, write us or call in your local Electro-Motive representative.

Electro-Motive's Locomotive Rebuild facility at La Grange covers more than one-and-two-thirds acres. Many components are rebuilt on new locomotive production lines, as well as at five other strategically located Factory Branches.

The best locomotives are even better today!

ELECTRO-MOTIVE DIVISION · GENERAL MOTORS

GENERAL MOTORS LOCOMOTIVES

La Grange, Illinois · Home of the Diesel Locomotive

N-S-F helps an old road stay YOUNG

NOTICE TO SHIPPERS
THIS CAR IS EQUIPPED WITH A
NAILABLE STEEL FLOOR
SECURE BLOCKING
BY NAILING INTO GROOVES
BETWEEN THE FLOOR CHANNELS
USE 20 to 30 PENNY NAILS

Western Maryland specifies

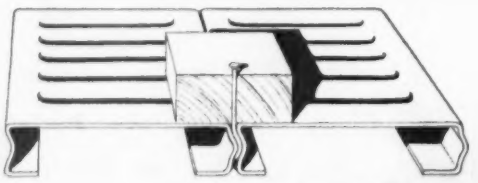
NAILABLE STEEL FLOORING

for 250 new gondolas

In the 102 years since it was chartered, the Western Maryland has grown from a short line connecting Baltimore, Union Bridge, and Westminster, Maryland, to a vital link between the Great Lakes and the Atlantic Seaboard. Today, its 837-mile main line ranks among the most modern in the country. And its sound program of equipment replacement is reflected in the "youth" of its freight cars and other rolling stock.

Alert to railroad progress, Western Maryland specified N-S-F, NAILABLE STEEL FLOORING, in 250 new gondola cars. Gondola floors of N-S-F have ample strength to take the abuse caused by bulk raw materials—and the nailability necessary for blocking finished freight. As a result, more freight can be moved with fewer cars—deadheading is minimized—switching time is reduced—car supply is improved.

COMPLETE engineering and cost data are available from Great Lakes Steel Corporation, Steel Floor Division, Ecorse, Detroit 29, Michigan. Sales representatives in Chicago, Philadelphia, St. Louis, Atlanta, Omaha, Denver, San Francisco, Montreal and New York.



PATENTED—PATENTS PENDING

N-S-F is made of low alloy N-A-X HIGH-TENSILE steel—remarkably strong, corrosion-resistant—formed into channels and welded together to form a unique nailing groove. Nail is clinched in a tight grip of steel, yet can be readily removed.

GREAT LAKES STEEL CORPORATION

Steel Floor Division • Ecorse, Detroit 29, Michigan

NATIONAL STEEL CORPORATION

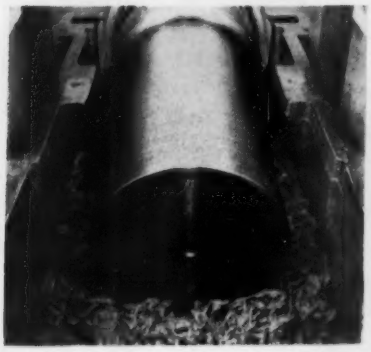
54-SF-5A

More New Products

(Continued from page 25)

lumination and also give the fixture a pleasant appearance, free from contrasting light and shadow.

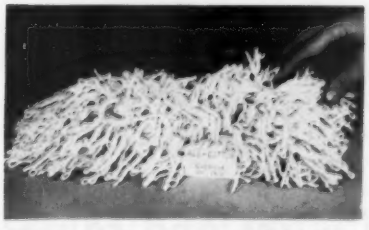
To be completely safe in locations where there is the possibility of flammable gases being present, the fixture's lamp and wiring compartments are individually explosion-proof. Its cast aluminum construction can resist internal explosions without damage and its flame-tight threaded joints, which require no seals or sealing compounds, prevent the escape of flames or gases into the outer atmosphere •



Cut-away section of journal box to show how Chenille packing rolls are applied and lie well below the journal center line.

Chenille Roll Journal-Box Packing

A new medium for wicking and filtering oil in car journal boxes, developed by the Journal Box Servicing Corporation, Chicago, has been approved for use in interchange service, on a limited basis of 5,000 car sets, for the purpose of determining more extensive results in actual field operations. Chenille Roll-type packing is designed primarily to accelerate the flow of oil to the bearing through the use of selected yarns made of cotton or a mixture of wool and cotton threads in the yarn. According to the manufacturer, laboratory tests have demonstrated improved capillarity and lower bearing temperatures, as compared to the ordinary waste-pack.



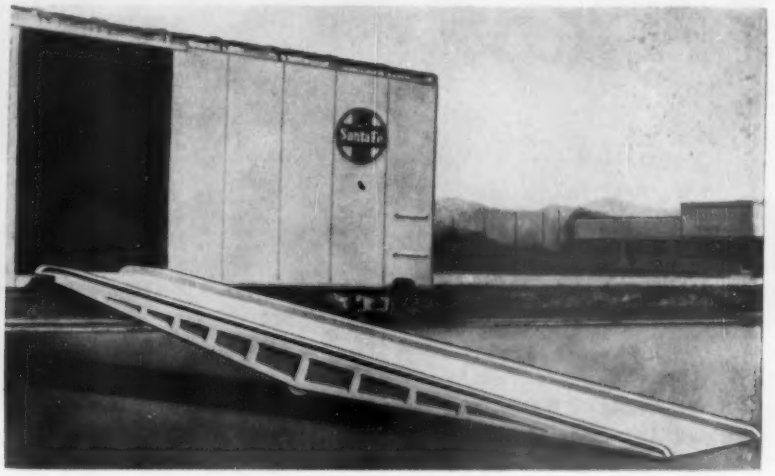
Chenille journal-box packing roll which is available in all-cotton or a mixture of wool and cotton.

Yarn used in construction of the roll is formed into three-inch loops, and sufficiently twisted to give increased resiliency. Each of the yarn loops is sewn individually to a core made of soft lamp-wick ducking. The ducking serves a three-fold purpose of holding the yarn loops in position and acts as an oil filter and wick.

Four or five rolls may be used to pack a journal box, depending upon the size of the box. For the box packer, it is said that guess-work is eliminated and the chance of varied opinions and poor judgment considerably lessened by use of Chenille Rolls, as a specified number of rolls is required for each size journal box. Field tests indicate that cars may be repacked with less effort and consequently in less time, also more accurately.

During the summer of 1953, the Duluth, Missabe and Iron Range equipped 500 ore cars with the new type packing in one truck of each car and to date good results are reported. In extremely cold weather, the rolls continued to supply oil to the journals and resisted displacement by rolling. The summer performance was equally encouraging.

While the life of Chenille Roll packing is yet to be determined by service tests over a period of time, favorable results are expected since the rolls are designed to withstand service wear and a series of reclamations, with no loss of materials •



New Magnesium Ramp

A new Penco Magnesium Yard Ramp, designed to save manpower and loading time hours, has been introduced by the Penco Engineering Company, 25 California st., San Francisco 11, Cal. The ramp can be moved at will by one man and permits truck and car loading from ground level without the inconvenience of immovable facilities.

Built of lightweight magnesium with a raised diamond surface plate, the ramp is claimed to be both rugged and safe. It comes in two sizes—60 and 70 inches wide, and in six capacities from 4,000 to 16,000 lb. The ramp height is adjustable within a 38- to 55-inch range.

A choice of fixed wheels or hydraulic lift is also offered •

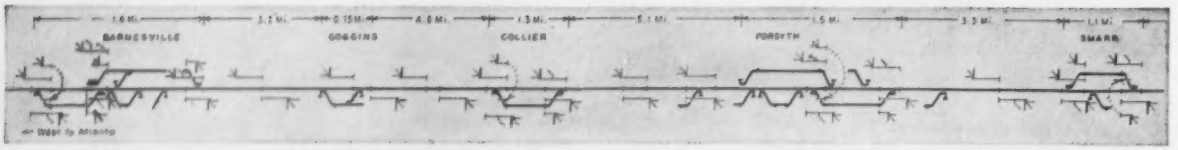
Alarm Controls

An alarm system to quickly report any malfunction in unattended operation of equipment, and to warn of breakdowns of remote control telemetering apparatus, is now available from the Hammarlund Manufacturing Company, New York. Power failure, excessive temperatures, fire, failure of control equipment, abnormal system conditions, unauthorized entry, and automatic transfer to standby equipment, are typical conditions that are quickly brought to the attention of the supervisory staff by means of the new equipment.

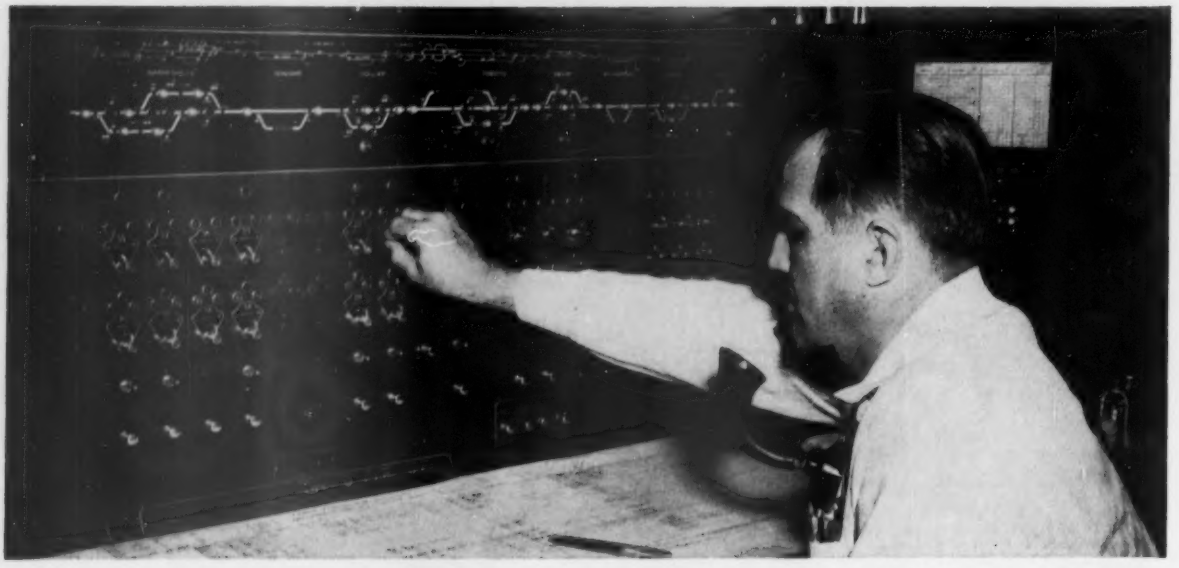
The basic alarm system consists of a battery-powered tone transmitter and a frequency selective receiver with a suitable alarm display. These two pieces of terminal equipment may be joined by a standard telephone circuit or the equivalent. The system may be expanded by the addition of a coding unit at the transmitting end for classification of the types of failure involved.

Information is transferred from transmitter to receiver, either as a continuous 1,000-cycle audio tone, or as an interrupted 1,000-cycle tone, depending on the coverage required and the degree to which the character of failure must be identified.

The coded transmitter includes memory facilities which make possible the simultaneous acceptance of reports from two or more areas of failure, and notification of these failures •



CENTRAL of GEORGIA's expanding C.T.C. system powered through OKONITE-OKOPRENE cables



42 miles of single track are controlled from Terminal Station in Macon, Georgia. Okonite-Okoprene insulated wires and cables are in use throughout.

CENTRAL OF GEORGIA has completed 42 of a proposed 102 miles of modern C.T.C. over single track line between Macon and Atlanta. As so many Class I railroads are doing, Central of Georgia specified Okonite-Okoprene cable for line drop wires, tower and case wiring, and signal wiring.

Fewer sidings, with a consequent reduction in maintenance, were one reason for Central's adoption of a C.T.C. system. And greater circuit security with practically no maintenance is assured Central of Georgia with Okonite-Okoprene wires and cables.

Centralized control of train movements requires absolute dependability throughout the whole system. Okonite-Okoprene cables are so frequently specified because they have a degree of dependability and long service life unequalled by other cables. The Okonite insulation and Okoprene sheath provide an extremely stable dielectric and a tough, oil-, heat-, and moisture-resisting covering—a safe combination that railroad men have placed their confidence in for many years. The Okonite Company, Passaic, N. J.

The best cable is your best policy

OKONITE SINCE 1878 *insulated wires and cables*

1398

Are New Skills Needed For Railway Managers?

The recent proxy fights for railroad control present important questions of managerial organization and stockholder relationships—and suggest that other railroads than those recently involved ought to examine themselves for strength or weakness in this sector. These questions have been presented in sharpest focus, perhaps, in the New York Central contest, in which the final outcome had not been decided when these lines were written (May 21). However this struggle may turn out, the rather novel organizational and managerial problems it presented will continue.

There is nothing inherently evil, certainly, in a proxy contest. Basically, it represents only the healthy functioning of the principle of competition. Under the corporate form of doing business, the stockholders are the bosses, and if they get the notion—whether right or wrong—that they would fare better with a change in directors, then it is their right to act accordingly. It is the duty of directors to direct the corporation in the stockholders' behalf; and, in their own and the stockholders' interest, they should keep the stockholders adequately informed of how well they are doing their duty. If they both (1) do their directing well and (2) keep the stockholders thoroughly informed of what they are doing, there should exist only a minimum opportunity for successful revolt. There will always be the possibility, of course, that a new group may buy their way into majority control of the company—but, since the buyers are obviously more interested in the property's future than those who sell, then there is certainly nothing blameworthy in their attempting the full exercise of their rights as owners.

Bearing all the foregoing in mind, however, some of the public arguments advanced in the New York Central contest savored more of a political campaign than of objective investment analysis. Both the warring factions in the struggle were headed by smart men, and the conclusion is inescapable that they both must have believed that there are a lot of people with money enough to buy corporate stock who can be swayed by arguments beyond the scope of cold and strictly relevant fact. If that condition be true, then the sooner corporate managements become aware of the situation and act accordingly, the better off everybody is going to be. It has long been recognized that, in running for elective political office, intrinsic capacity to perform the duties of the position, by itself, is insufficient. In addition, the successful aspirant has to be a "vote getter"; and many qualities besides capacity to perform the duties of office are required for vote-getting.

If vote-getting ability is going to be a necessary or desirable qualification in a corporate executive—either to hold the job he has or to aspire successfully to a position of leadership he covets—then corporate leaders should lose no time in providing themselves with the necessary skill. Not limiting ourselves to railroads, but encompassing all corporate executives, our observation has been that most of them have been inclined to modesty—at least outside their immediate corporate bailiwicks. Many of them have shunned general public attention and, when it has occasionally come their way, have not responded too effectively. There seems to be a possibility, at least, that this tendency to shyness may no longer be desirable or even workable, for outstanding success in corporate management. At least a few large corporations appear to have solved the problem by having, in effect, two chief executives—one for "outside" relations and the other for the "inside."

But the problem does not end with the chief executive—it includes also the effectiveness of communication of management with stockholders. The principal communication that most corporate managements—including railroads (until recently)—have had with their stockholders has been through the annual company reports. The format and content of most of these reports have been vastly improved in recent years—but still, as far as we have observed, the information provided has usually been purely factual. There has been nothing in these reports to appeal to the stockholders' emotions, or to reflect adversely on the performance of management of rival companies. Maybe further steps in popularizing of communications to stockholders are needed.

It wasn't enough for Caesar's wife that she be virtuous—it was also necessary that she enjoy that reputation widely among the populace. If a parallel obligation is coming also to corporate managers, then they will have to take it on, hard as a political role may be for some of them. After all, the union leaders found that they had to learn political skills to get and hold their jobs—and these skills they carried over into the regular political arena; and not without advantage to themselves and their clientele, either.

APPLYING END SHEETS to an ore car.

Let's Budget Car Building

By GUSTAV METZMAN
Chairman and President,
American Railway Car Institute

The greatest economic waste in the entire railroad industry today is lack of regularity in acquisition of new equipment. The pattern that has now become historic is the very lack of a pattern, or plan, in scheduling purchases of freight cars. Many explanations have been offered for this peak-and-valley phenomenon, but I have never encountered one that is completely satisfactory.

Railroads have more difficulty than most other industries in planning and budgeting future requirements because of their onerous burdens of over-regulation and unfair competition of subsidized transportation. However, it seems they do more adequate planning for their power, roadway and terminal requirements than for freight cars, which really bring in revenue. The very fact that a freight car will last only so many years, or miles of service, almost predetermines the date of its retirement and should enable management to plan its replacement years ahead.

It is a matter of public record that of the entire freight car fleet approximately 38 per cent, or about 660,000

◀ SIDE SHEETS being installed on a box car.

At the annual meeting of the members of the American Railway Car Institute on January 20, which marked the end of my first year's activity with them, I said: "At the year's end I can say, with even greater conviction than I had before, that the independent car building industry is a part of the railroad industry, and an *indispensable part*. I can also say—and even more strongly—that the problems of the railroad industry are the problems of the car building industry, and to the degree that we put forth effort to assist railroads in coping with their problems, to that degree will this industry become *even more indispensable*."—*Gustav Metzman*

cars, are more than 25 years old, and of this number about half are over 30 years old. Any railroad man knows that many of these cars are running on borrowed time. Yet, after a year of good earnings in 1953, perhaps the all-time high in the history of the industry, orders for new freight cars on the books of car builders, as of May 1, were, with one exception, the lowest they have been during the past 11 years. Practically all car building plants are approaching the closing point, with the consequent loss of trained labor. Meanwhile, overhead will go on, and must be made up somehow.

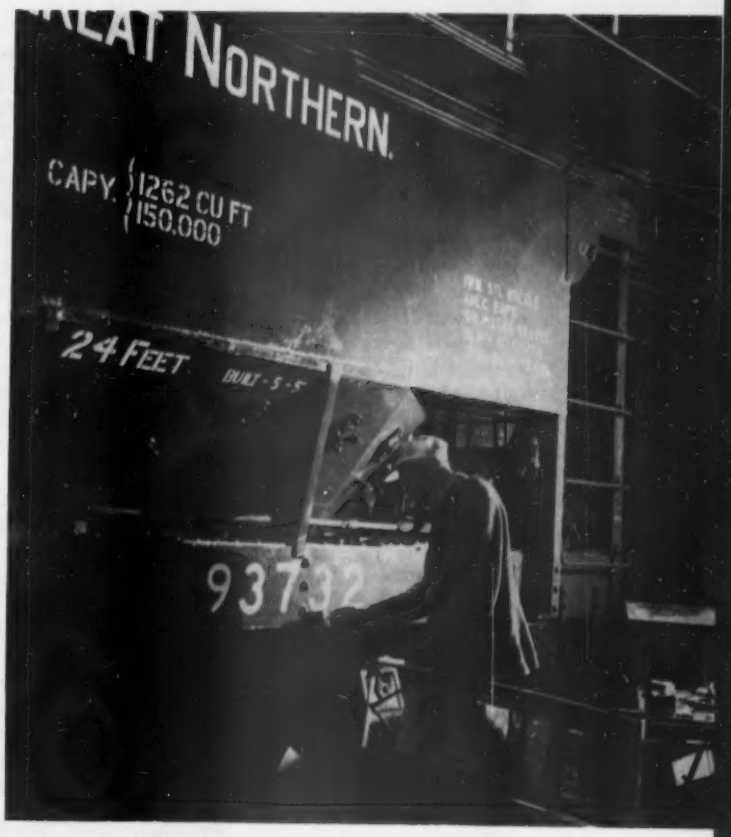
If the pattern, or lack of pattern, of the past repeats itself, one should not be surprised to see most major car building plants closed for a few months, and then a rush of orders that will call for reopening, recruitment and training of a new labor force, and new orders for materials. Then there will be another loss of time filling pipelines of production before cars begin to roll out of yards.

As an example of this cyclical phenomenon, I want to cite some statistics for 1949 and 1950. During 1949, a total of 92,562 freight cars was delivered, but at the end of the year the total backlog of orders on books of contract and company shops was only 12,036 cars, less than two months' production at the average rate of deliveries during that year. Then came 1950, with a rush of new car orders. But the necessary loss of time in reopening plants, recruiting labor, obtaining materials, and necessary tooling up, delayed actual production for many months.

The backlog at the end of 1950 totaled 124,489 cars, but only 43,991 had been produced during the year, because of the loss of time mentioned above. Obviously, there was a serious economic loss that had to be made up somewhere, probably in the price of cars, because it certainly reflected itself in the cost of building cars. This example could be cited again and again, with variations, over the years, It just doesn't make sense, and despite all the explanations I still maintain that ways can be found to correct it.

On the other hand, the car building industry as a whole is characterized by over-production facilities. There is not enough demand for cars, even if they were ordered on a more regularly scheduled basis, to keep existing facilities busy. In this, too, there is inherent waste, or economic loss. It is not the duty or function of railroads to keep inefficient units of the car building industry in business, nor is it the concern of railroads if someone altogether new decides to engage in the car

COMPLETED UNDERFRAME lifted from welding jig.



APPLYING STENCILS to finished ore car.

building business. If new plants resulting from new ventures in the contract car building business were the reason for the excess of facilities over practical needs, it would merely be the result of miscalculation, or bad judgment, on the part of those who built the plants and engaged in the business. But that is not the way the excess capacity came into being.

The facilities of the contract car building industry today are sufficient to build all cars required for the entire railroad industry. There has not been, so far as research reveals, a time when this was not the case, if car orders had been placed on a regular basis. Nevertheless, many railroads have established their own car building plants, and over the years total capacity has outgrown demand.

Regardless of some claims to the contrary, it is still a moot question whether or not a railroad can build its own cars for less money than it can buy them from a contract builder. A joint survey, sponsored by railroads which build their own cars and by contract car builders to determine the facts, would be beneficial to both parties.

Among reasons advanced by some railroads for building their own cars are:

A. Availability on their properties of freight car shops generally used for heavy repair or rebuilding work, and the insufficient volume of either to maintain regularity and efficient continuity in shop work.

B. The need to obtain maximum efficiency of production and proper distribution of overhead expenses, to avoid non-productive expense and loss of skilled labor.

Among the approximately 130 Class I railroads today only about 20 per cent have car building shops of their own. Under the law, these roads are not permitted to build cars for sale to other roads unless they are subsidiary lines. This means that a great majority of Class I roads are wholly dependent upon contract car builders for their freight cars.

Roads which own their own car building shops are, by and large, the larger and most strongly financed roads—although there are some notable exceptions—and the other roads must go outside for their new equipment. If these other roads are not able to build their own cars, they have no place to turn except to contract builders. What is to happen to these roads if independent car builders are forced to go out of business, or so diversify their manufacturing interests that they no longer desire to engage in car building?

This would leave many railroads with no source of supply for their car requirements, and, with the lack of working capital common to many of them today, it is hardly likely that such roads would be able to construct plants to build their own cars. Even if it were possible for them to do so, their relatively small car requirements would make such building a most expensive operation.

Thus it appears, when all factors are taken into consideration, since most cars of Class I roads go into interchange and each road has its quota of the number of cars required to protect its traffic, that all roads should have equal opportunity in the market place for their necessary equipment.

The business of railroads is transportation, not manufacturing. They need to use all the capital at their command to keep their equipment and structures up to date. They need to plan for freight car acquisition on a basis of regularity and stability and in sufficient volume to keep pace with our ever expanding population and economy—otherwise the increasing trend of losses of traffic to competing agencies will continue.

Railroads have other problems, too, and they are manifold. Among these are outmoded and outdated, not to say archaic, regulation by government authority; inequitable tax laws; subsidized competition; and lack of freedom of initiative. In all these things, which can be corrected only by legislative action, railroads need the understanding and help of as many friends as they can marshal.

The contract car building industry has the opportunity to be helpful in fostering the cause of the railroads, and it has done so consistently. I cite, as one example, the three years' continuous campaign of advertising and propaganda conducted by the American Railway Car Institute, the "Fair Play" campaign. Our files contain many letters of appreciation and approbation from heads of railroads throughout the country. This campaign was doubly effective because it was carried over the signature of the ARCI, and therefore had its public impact without the handicap of special pleading.

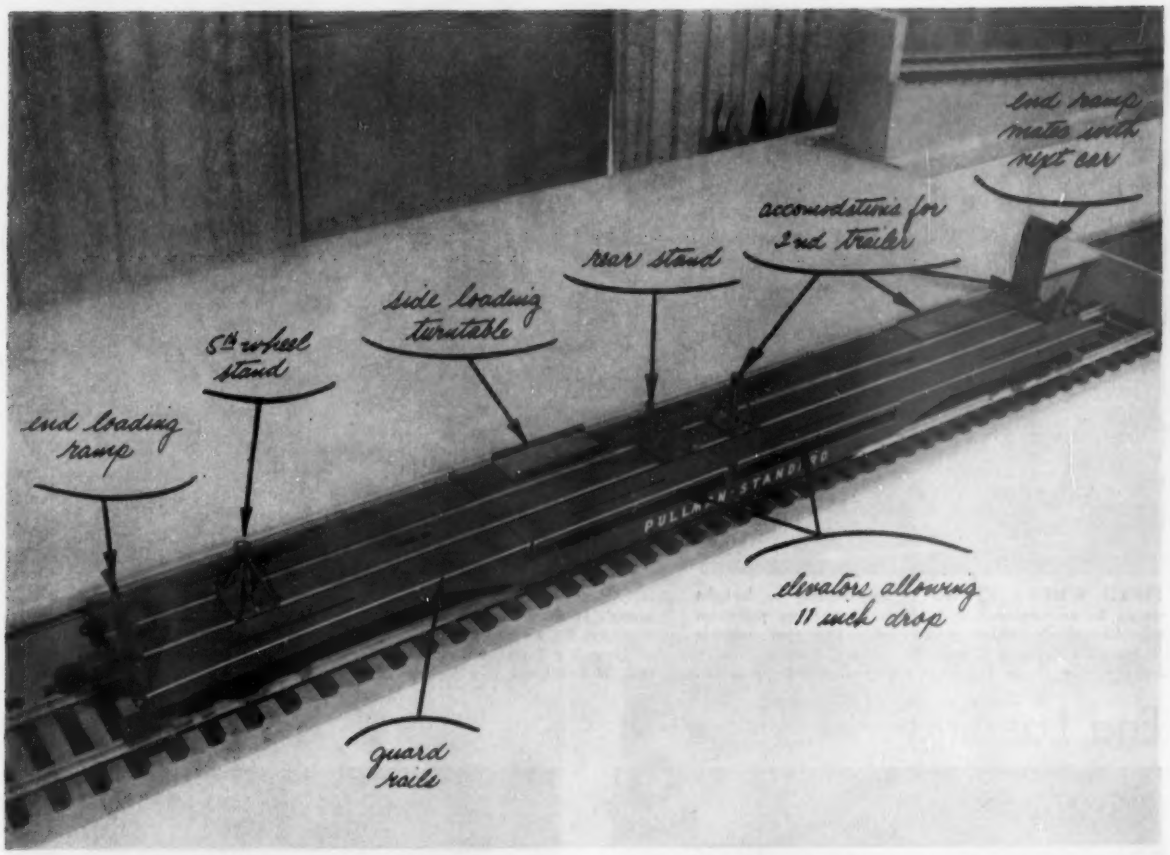
Problem Is Many-Sided

When the campaign was discontinued because of a declining order book, the percentage of freight car orders going to contract car builders was smaller than when it was begun. Yet, because the problem with which we are dealing is a many faceted one, and because results can never be exactly timed with causes, there is no feeling by car builders that they did not render an important and an appreciated service to the railroads.

During the past year I have discussed these matters with the heads of many railroads—those which have their own car building shops and those which do not. I believe I can say, advisedly, that high level consideration is being given to the cogency of the arguments advanced. While a year of low orders, as 1953 was, is not a conclusive criterion, it is significant that of orders placed during that year a larger percentage was placed with contract car builders than had been the case in recent years.

One basic area of agreement was established in all discussions—that, regardless of building in railroad shops, railroads need the car builders, even though some admitted that at present they are using them as a standby industry.

While the past year has been spent largely in exploration and discussion of the problems, I believe that closer cooperation between railroads and car builders is being developed. It is hoped this cooperation will not only result in helping railroads overcome some of their difficulties, but also in producing a greater number of modern freight cars. It is further hoped that new methods of financing now being explored will aid in bringing about a more regular and stabilized program of freight car orders. Finally, it is hoped that new and better arrangements of building freight cars mutually beneficial to railroads and contract builders will prevail.



"PIGGYBACK" EQUIPMENT—adjustable to meet varying needs of side and end loading, tight clearances, etc.—may be entirely removed for general freight service. This scale model culminates preliminary engineering by Pullman-Standard on . . .

An All-Purpose Flat Car

Appreciating the need for a car adaptable to the varied requirements of trailer-on-flat-car service and which may also be used in general freight service, the Pullman-Standard Car Manufacturing Company has developed a wholly new type of car that is quickly convertible from a flat deck into a double side well car.

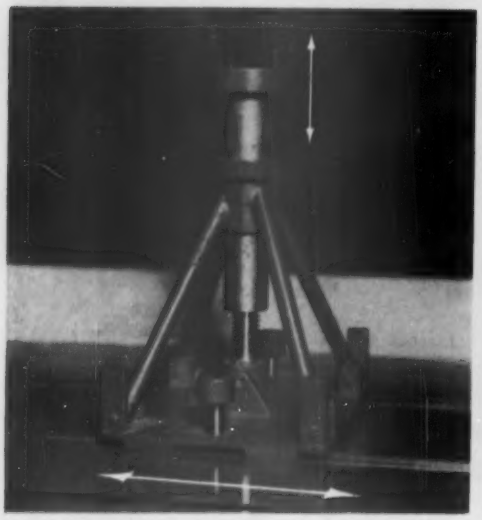
The "conversion" is accomplished by elevators the surface of which, when raised, are flush with the car floor. They may be lowered, either mechanically or manually, a maximum of eleven inches, thus permitting "high" (12-ft 6-in.) trailers to be accommodated where overhead clearance would otherwise be a problem. In handling highway trailers the elevators are lowered after the trailers are in place, thereby overcoming an objection voiced against some earlier prototypes—the "humped" floor, which tended to make side loading awkward and was considered somewhat hard on tires.

Hold-down equipment for the car is fully adjustable both as to positioning of trailers on the car and as to their height. The car may be equipped for end loading (with a ramp at each end) or side loading (with a dual wheel turntable) or both, as operating conditions dictate. Tests with the scale model car indicate the feasibility of storing all "piggyback" equipment beneath the floor level, thus making the car available quickly for general freight service.

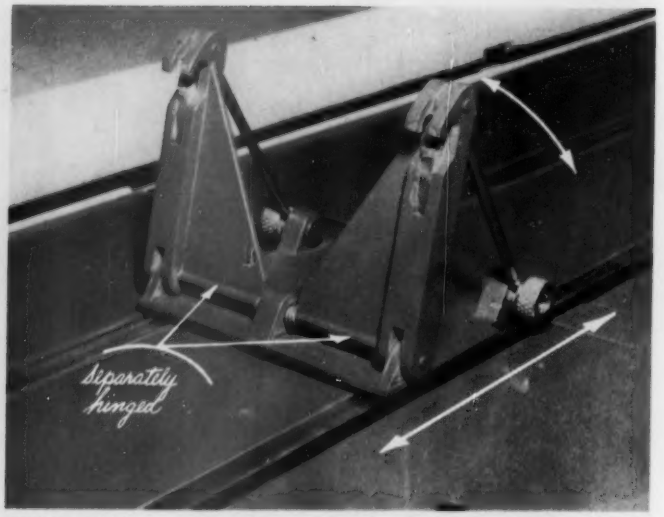
As now planned, the car would be available in two lengths. The larger would be a 75-ft. car (similar to the model illustrated) with provision for handling two trailers. The other would be 53 ft 8 in. long; would handle only one trailer; and would be equipped with but a single elevator unit. In addition to options as to "piggyback" equipment, the car would be available with or without elevators or it could be built with provision for their future installation. Both the 53-ft and 75-ft models have been designed to accommodate Pullman-Standard's cushion underframe or standard draft gear in the center sill assembly.

More on next page

Hold-Down Equipment—

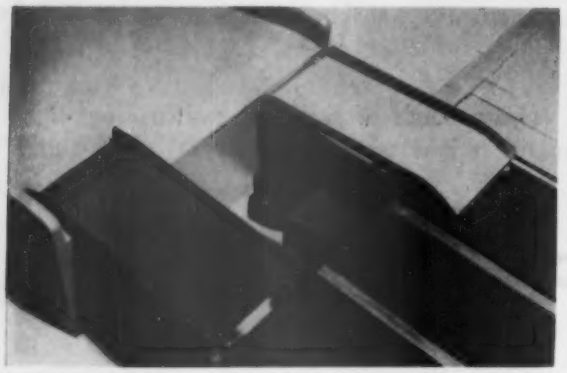


FIFTH WHEEL STAND is adjustable in height so as to accommodate trailers in a level position whether the elevator unit under the rear wheels is lowered or not. It may be moved longitudinally in the car floor tracks to any desired position.

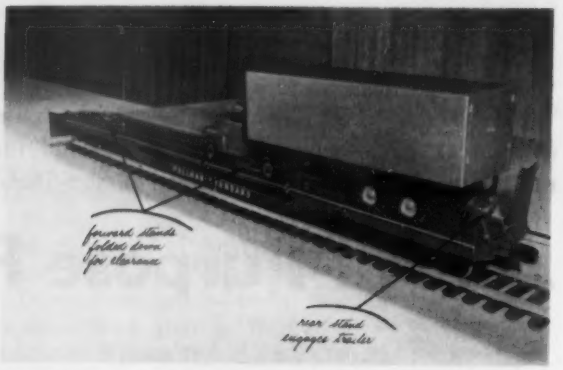


REAR STAND is adjustable in the same degree as the 5th wheel stand. It may be slid in the floor track to any position in the car or it may be removed entirely (for non-piggyback assignments) by sliding it off either end of the car. For clearance in end trailer loading, it folds on the floor providing six-inch clearance.

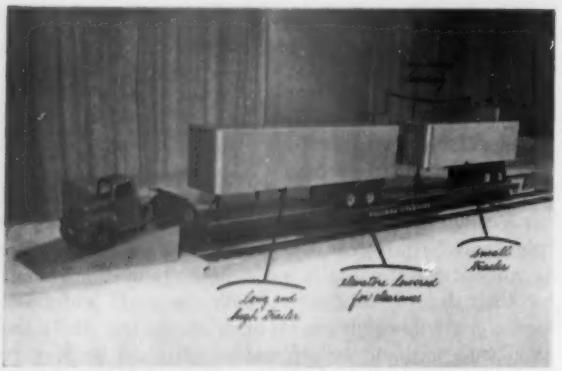
End Loading—



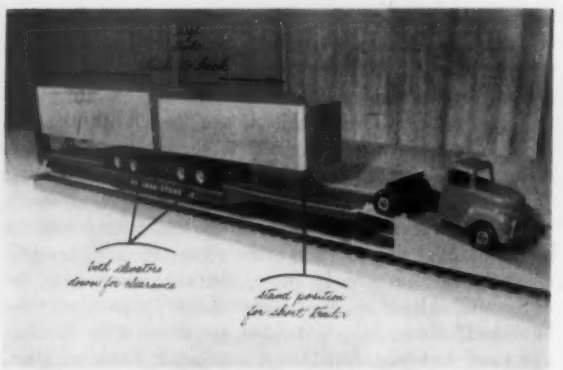
END RAMPS hinge from the car end to bridge the gap between cars or between the car and the loading ramp. They are located on alternate sides of the car.



TRAILERS not presenting an overhead clearance problem may be loaded facing in either direction although hold-down equipment must first be positioned accordingly.

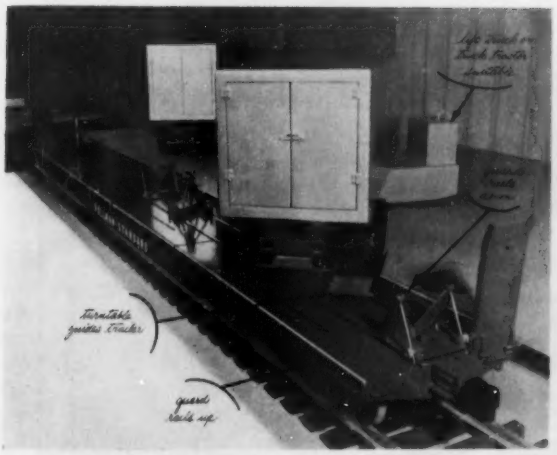


"HIGH" TRAILER being shipped through tight clearance territory, is loaded with rear wheels on the elevator platform. The elevator is lowered first, then the rear stand assembly is secured to the trailer.

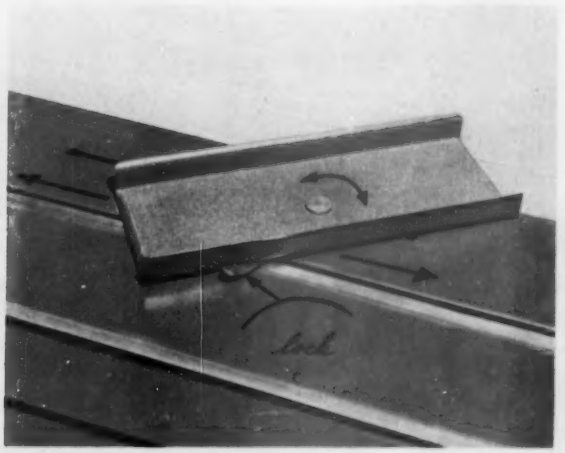


LOADING METHOD: (1) position trailer, (2) lower elevator (if needed), (3) secure rear stand, (4) lower trailer dolly wheels, (5) remove tractor, (6) engage 5th wheel stand, (7) retract dolly wheels.

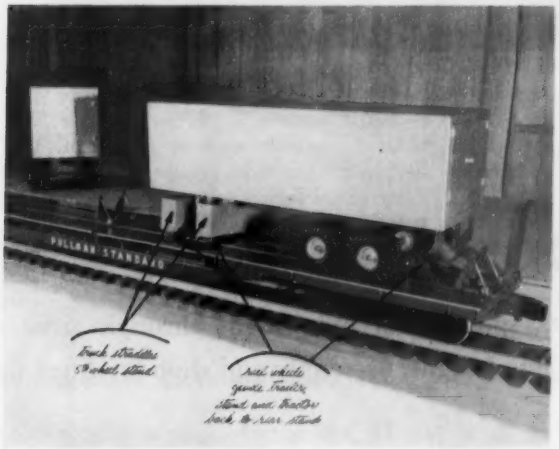
Side Loading—



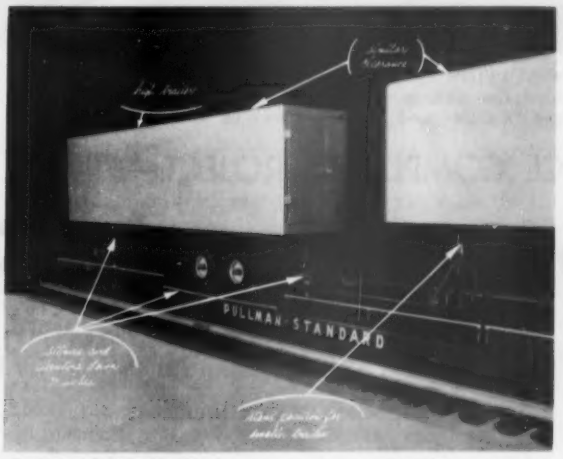
HOLD-DOWN ASSEMBLIES need not be folded down during loading from raised loading platform. Truck tractor or lift truck positions trailer on turntable which then assists in guiding the trailer.



TURNTABLE pivots in position both for guidance in spotting and to ease strain on trailer tires. It may be positioned anywhere in range of its floor slot or removed entirely if unneeded.

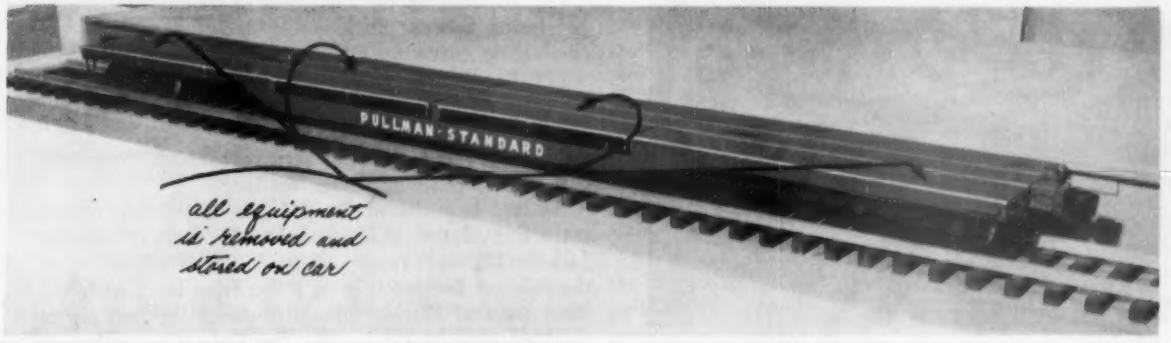


LIFT TRUCK pivots trailer into position straddling 5th wheel stand and indexes trailer 5th wheel pin in line with 5th wheel stand. Small transverse wheels then guide truck, stand and trailer toward rear stand.



TRUCK TRACTORS may be used in side loading although they are not as maneuverable as the lift truck. Note here how hold-down equipment accommodates varying trailer heights and lengths.

General Freight Service—



FLAT DECK of the car can also be used for handling structural sections, pipe, etc., in general service. By lowering elevators, it may also be converted into a drop side well car for special lading.

NEW STATION at Sanford, built on outskirts of city, enabled the ACL to consolidate its freight and passenger facilities and district offices in one building.

ACL COMPLETES PROJECT—

Station Facilities Consolidated

Improvements made at Sanford, Fla., speed train movements through city and effect substantial savings by bringing freight, passenger and shop facilities together at one location

NORTH CONNECTION of the new double-track cut-off line. Old line to downtown Sanford is at right.

The Atlantic Coast Line has completed a project at Sanford, Fla., which has involved the realinement of its tracks through the city, the consolidation of its freight and passenger facilities and district offices in one building, and the construction of modern shop and locomotive servicing facilities. This project had three primary objectives:

(1) To speed up the movement of freight and passenger trains between Jacksonville and Tampa, both by eliminating curvature and by shortening the line;

(2) To eliminate work duplication resulting from the maintenance of separate freight and passenger stations; and

(3) To effect further savings through consolidation of shop facilities at one location.

Sanford is a city of about 12,000 population on the main line of the ACL approximately midway between Jacksonville and Tampa. It is an important point on the railroad because it is on a line from the East to the West coast of Florida through some of the best citrus-fruit country in the world. The Lake Charm branch and the Sanford and Everglades branch, both of which

originate at Sanford, serve a rich celery-producing area. In addition, the Tavares branch, extending west from Sanford, runs through citrus-fruit territory.

Before work was commenced on this project, the principal lines at Sanford were somewhat in the shape of the letter "Y." The line from Jacksonville (see sketch) was the right arm of the "Y;" and the line from Tampa the left arm. The passenger station, district offices and most of the shops were at or near the junction of the two arms. The freight station was at the end of the tail of the "Y."

This freight station, built about 1875, was about a mile from the passenger station and district offices, which were housed in a structure built in 1912. The freight station was somewhat outmoded. Because of the lack of space at the passenger station it was not possible to consolidate the two facilities there, and anyway the the sharp curvature of the tracks through the station grounds was considered objectionable.

Because of the substitution of diesel power for steam on all trains operating through Sanford, the existing shop facilities at the junction of the arms of the "Y" had become obsolete. Also, they were 1.2 miles from a freight-car repair shed which was built in 1923.

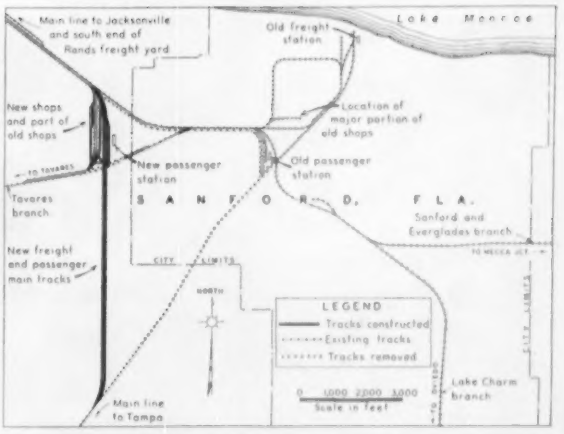
The first phase of the project, completed and placed in operation in 1951, consisted of the construction of a single-track cut-off line, together with the grading for a second track, across the "Y" between the two arms. This was followed by the construction of the second track and of a modern two-story combination freight and passenger station, including the district offices. This phase of the project was completed in 1953. Also during 1953, new shop facilities were provided at the location of the existing car-repair shed on the new main line in front of the new station. The old shop facilities were retired and the old station buildings are being converted to other uses.

Distance and Curvature Saved

There were eight curves on the old portion of the Jacksonville-Tampa main line between the ends of the new "cut-off" line. The curvature varied from 1 deg to 9 deg 45 min. In contrast, there are only two curves on the new line, one of 1 deg and another of 3 deg. The line-relocation effected a saving of 109 deg 46 min in the total central angle, and reduced the length of the line between Jacksonville and Tampa by 5,439 ft, or 1.03 miles.

Both new main tracks are laid with new 115-lb rail. The entire line from Jacksonville to Tampa is now laid with 115-lb rail, with the exception of 26 miles laid with 131-lb section. The new mains are protected by an automatic block-signal system, as is also the line from Sanford north to Jacksonville. From Sanford south to Tampa, the tracks are protected by a recently completed CTC system, which has permitted retirement of an electropneumatic interlocking plant at the old passenger station. Important street and highway crossings on the new line are protected by automatic flashing-light signals.

The new two-story station-and-office building is 32 ft by 314 ft in plan, with a bay 6 ft by 27 ft, and has a roof overhang of 5 ft on all sides. The first-floor level includes waiting rooms, a freight and passenger office,



CUT-OFF LINE, constructed just outside the city limits, reduced the main-line distance by 1.03 miles. It also eliminated several sharp curves.

a baggage room, space for service facilities, a freight wareroom, a 16-ft by 32-ft concourse, and a covered concrete freight platform, 32 ft by 48 ft 8 in. The second-floor level, 32 ft by 169 ft 6 in. in plan, provides space for the Jacksonville district offices.

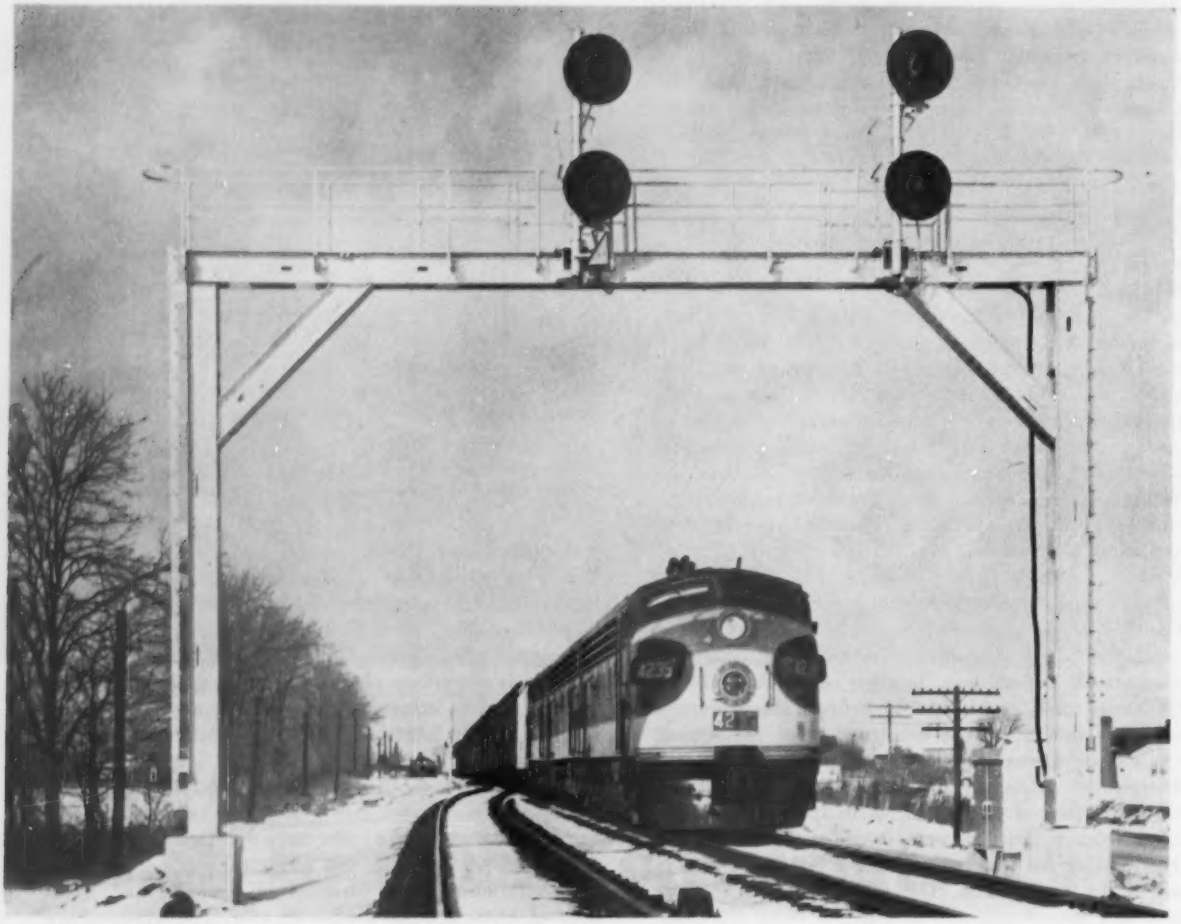
There is a concrete platform at car-floor level in front of the freight platform and wareroom, a concrete platform at ground level in front of the waiting rooms and offices, and a concrete sidewalk 116 ft long behind the building. Passenger landing platforms, alongside the southbound main track and between the two main tracks, are of asphalt and have concrete curbs. The driveway and parking areas are in the rear of the station.

The building is constructed of concrete and light-colored brick and has a built-up roof. The windows are of the aluminum architectural-projected type. On the interior, the walls are plastered, except in the wareroom, ceilings are of acoustical tile and the floors are of asphalt tile. In the rest rooms, ceramic tile floors and wainscoats, 6 ft high, were installed. The entire building, except for the baggage room and wareroom, is provided with a system for summer and winter air conditioning. Fluorescent lighting was installed. Floodlights, mounted on the building, light the driveway, and other floodlights at both ends of the loading platforms provide the necessary illumination for the train area.

New Shop Facilities

The shops now include the existing car-repair shed, facilities for servicing diesel locomotives, a storehouse, and washrooms for shop employees and trainmen. Included in the shop area are a 50,000-gal water tank and a 500,000-gal fuel-oil tank. Fuel oil and water are piped from these tanks to the shop area and also to both ends of the passenger landing platforms at the station. A parking area for shop employees is located alongside the shops.

Rands freight yard, 2.6 miles long and just north of the new station, was also improved and enlarged as part of this project. In addition, two-way radio has been installed at Sanford terminal between five locomotives, the yard office, and one automobile.



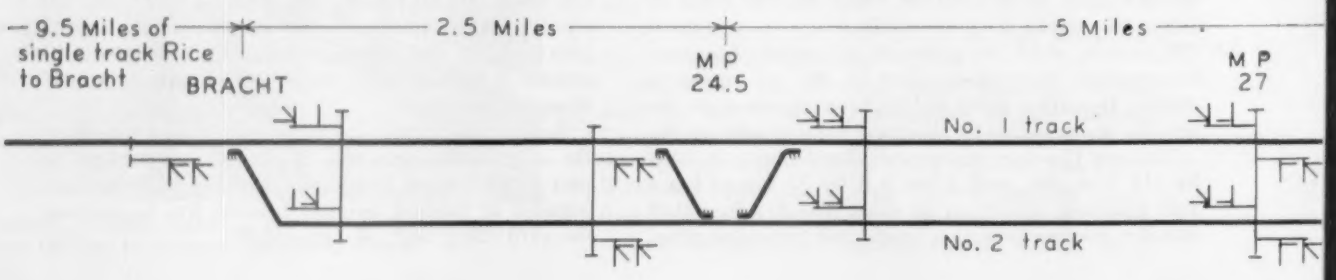
"STRAIGHT-TRACK" routing is used when no other moves are involved.

Alternating One and Two Tracks

. . . IN NOVEL USE ON THE SOUTHERN

Train performance improved, and track maintenance reduced, by converting 164 miles of double track to combination of single- and double-track, with centralized traffic control—No sidings now required

BELOW—A typical section of two main tracks used for trains to meet and pass without stopping.



A novel track arrangement, consisting of alternate sections of single main track and two main tracks, has been developed on the Southern for 167 miles between Ludlow, Ky., (Cincinnati) and Tateville, Ky., on the route between Cincinnati and Chattanooga.

Except for 3 miles of single track, including a tunnel, between South Fork and King's Mountain, this 167-mile segment previously was double track, with automatic block signaling for right-hand running. Twenty-two single-direction sidings, with hand-throw switches, were used for passing of trains of the same direction. Thirty-five hand-throw crossovers at various stations were used in emergencies for crossing trains from one main track to the other.

The change-over included removal of these 35 hand-throw crossovers and the 18 hand-throw passing tracks, as such. In addition, various sections of second main track were removed. For example, in the 30-mile segment between Rice and Mason (see map) the old southward main was removed for 9.5 miles between Rice and Bracht, and for 11 miles between Reid and Mason. This left 10 miles of double track between Bracht and Reid, both tracks now being signaled for train movements in both directions. At MP 24.5 and at MP 29.5 new power-operated remote-controlled double crossover layouts were installed, so that trains can be diverted from either track to the other, at either location.

The switches at the new ends of two-track and the double crossovers, as well as signals at these locations, are controlled by the dispatcher, the train movements being authorized by aspects displayed by these signals.

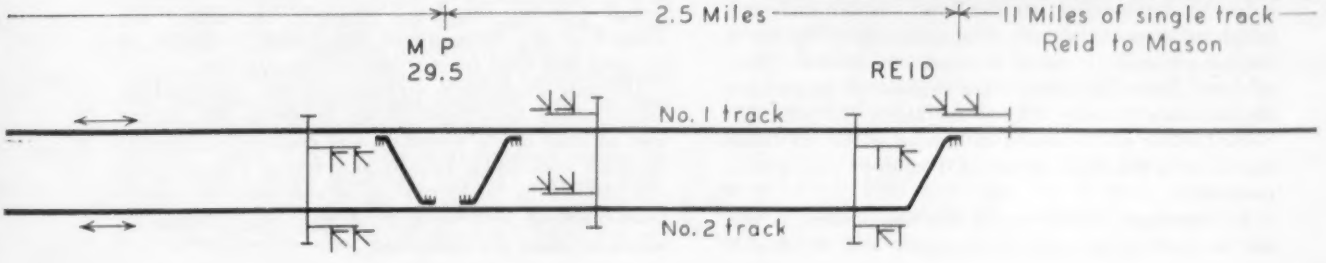
The sections of second track removed were, in all instances, the old southward main, so that, at each of the new ends of two-track, the No. 1 track (on the east side) is the "straight track," and the turnout is to the No. 2 track, which was previously the southward main. Therefore, when only one train is involved, it is routed on the No. 1, "straight track" thus requiring no speed reduction to make a diverging move. When two trains are involved in either a meet or a pass, the train being given "preference" is usually routed on the "straight track." Nearly all such meets are made with neither train being required to stop.

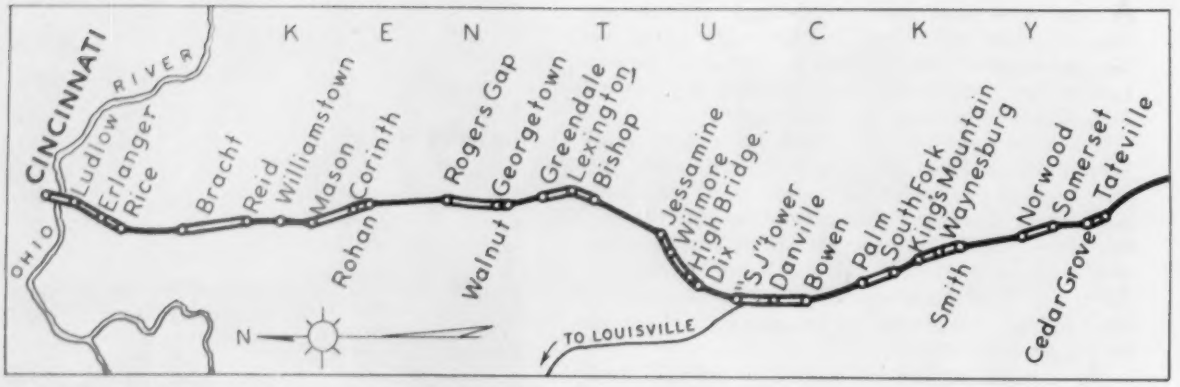
As compared to the righthand running double track previously in service, better overall train performance results from the flexibility of the new system. The dispatcher can give preference routing to trains as required, on a minute-to-minute basis, so that on-time performance of passenger trains and important through freight trains has improved, and also the slower freight trains are kept moving. Therefore, the new track arrangement

SOUTHBOUND MAIN TRACK was removed from roadbed where signal at left now stands.

TURNOUTS and crossovers are good for diverging moves at 45 mph.

RIGHT—Trains now run both ways on both tracks. ▶





CTC WAS INSTALLED after removing sections of main track as well as sidings.

and centralized traffic control have proved themselves decided successes from the standpoint of train operation, as well as because of the large saving in maintenance resulting from removal of track.

As trains, in most instances, are kept moving on the sections of double-track when making meets or passes, the 22 former single-direction hand-throw sidings were dispensed with, as such. Thirteen were removed entirely. Parts of eight other sidings were retained for use as switching pockets and house tracks. The siding at Lexington continues as part of the yard layout, being used by yard engines, as a pocket track, and by northbound freights when setting or picking up cars. Thus in the new system, there are no passing sidings used normally as such. This is a new and novel arrangement in railroading.

As the track diagram shows, it is about 2.5 miles from Bracht to the double crossover at MP 24.5 and about 2.5 miles from Reid to the double crossover at MP 29.5. This 2.5-mile interval is standard in the whole project, this distance being chosen for two reasons. When a train enters such a 2.5 mile section of the No. 2 track, the entire train can pull through the turnout at maximum speed permitted for that turnout (45 mph), with a second train length of empty track ahead available in which to stop, or to accelerate if the train is to continue on No. 2 track. Also, if necessary under unusual circumstances, two trains can pull into one of these 2.5-mile sections.

Numerous factors were involved in deciding where to remove sections of second track. The first consideration was to leave two main tracks through yards at Ludlow, Lexington, Danville and Somerset, where yard and station switching are important factors. Where train speeds are materially affected by grades and curves, double track with two-way signaling was left to provide better passing and meeting.

In the Ludlow-Danville territory, the general plan called for alternate sections of approximately 10 miles of single-track and 10 miles of two-track. Between Danville and Tateville, some of the sections of single-track are less than 10 miles. Out of the entire 167 miles between Ludlow and Tateville, 73.8 miles of the old southbound main track and about 11.6 miles of siding were removed.

An important time saver, in this new system, is that the turnouts at the ends of two-track, and the double crossovers between tracks, are No. 20 with special 39-ft curved switch points, so that trains are authorized to make diverging moves at speeds up to 45 mph. Of corresponding importance is the fact that special signal aspects and controls were installed to direct enginemen to bring their trains up to and through these turnouts at such speeds.

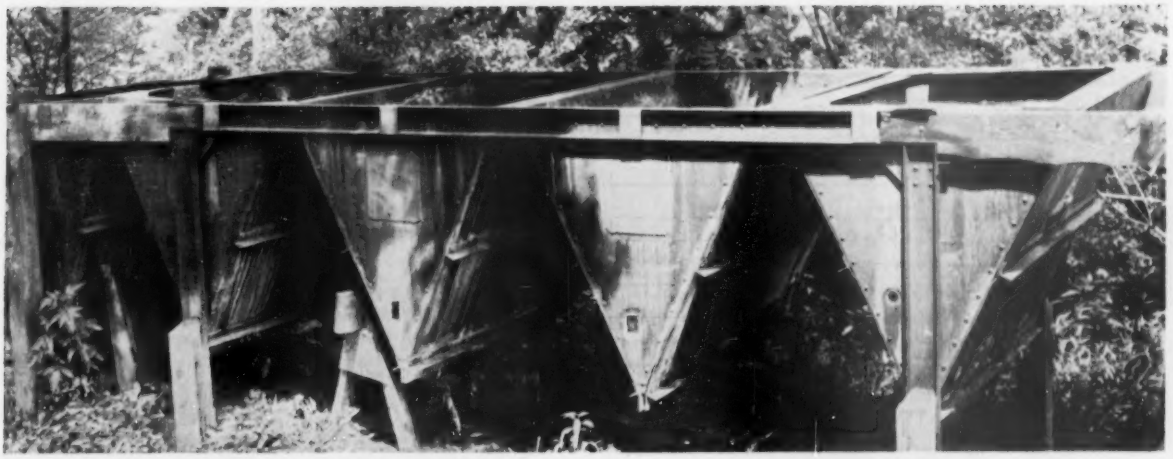
This new system of alternate sections of single-track and two-track was installed and proved satisfactory in a heavy traffic territory. Most of the freight trains move important through traffic on fast schedules. For example, No. 53, known as the "Sparkplug" because auto assembly lines in Atlanta depend on it, is scheduled from Ludlow to Tateville, 167 miles, in 4 hours 27 minutes.

The total volume of freight handled on this division is high. The most recent annual figures available are for 1952, when the net tons per mile was 5,730,956 northbound between Tateville and Danville and 4,756,821 southbound. Between Danville and Cincinnati the net tons per mile was 3,732,782, and southbound 2,697,526.

This project includes the first installation of the General Railway Signal Company's new "trakode" system, in which positive or negative impulses, as well as time spacing of impulses, fed to the rails, are used to secure any reasonable number of local controls, track-occupancy controls, etc., so that local line wires are not required. All the signaling equipment on this installation is operated by direct current from storage batteries, which are on floating charge through rectifiers. These batteries are the nickel-iron type made by Thomas A. Edison, Inc.

The CTC line code circuit is on two new No. 6 weatherproof Copperweld line wires transposed for carrier and voice frequencies. The code circuit from Somerset to Lexington is operated as conventional d-c control, with carrier circuits superimposed for control from Lexington to Ludlow. The 550-volt a-c power distribution circuit is on two new No. 8 weatherproof copper wires. These four new wires are on new bottom crossarms on the pole line used for communications circuits.

The new single-track arrangement was conceived by the operating department of the Southern. The project was handled by its operating and engineering officers; the track work being done by local forces. The new CTC was planned by Southern's signal and electrical department, working with General Railway Signal Company, which supplied the equipment.



EXPERIMENTAL HOPPERS under test at the Aluminum Research Laboratories. All-aluminum hoppers are 25 years old; composite hopper at right, 17 years old.

Aluminum in Hopper Cars

Light weight, mechanical properties and corrosion resistance of aluminum alloys offer operating advantages and potential maintenance economies

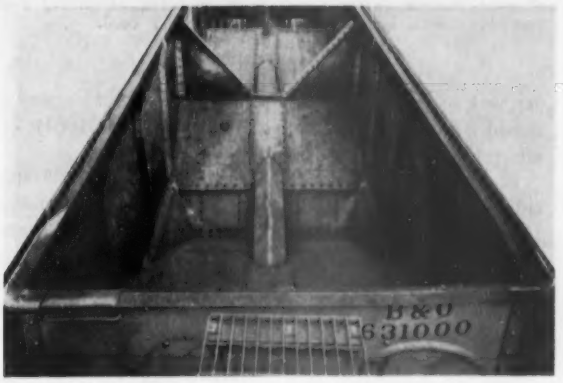
By E. T. ENGLEHART, JR., and G. B. HAUSER

Aluminum alloys, by virtue of their useful combination of especially light weight, a wide range of mechanical properties, and good resistance to corrosion, are ideally suited for use in transporation industries. Large amounts of such alloys already are being used in those industries, but there are still many more applications where those alloys can be advantageously employed.

Railroad hopper cars, for example, have long been considered one of the most promising of those applications. Today, a number of aluminum alloys having desirable properties are available for hopper car construction. This, together with the obvious need for a material requiring considerably less maintenance than that needed by materials currently employed, makes aluminum appear desirable for hopper cars.

Although aluminum hopper cars have a higher initial cost than cars of conventional materials, they are less expensive in the final analysis. Benefits obtained from increased initial cost can best be realized, of course, by use of such cars in closed or "captive" service. However, the advantage of reduced maintenance resulting from use of aluminum alloys can be obtained regardless of the type of service in which a car is employed.

E. T. Englehart, Jr., Chemical Metallurgy division, Aluminum Research Laboratories, Aluminum Company of America, and G. B. Hauser, chief railroad engineer, Sales Development division, Aluminum Company of America.

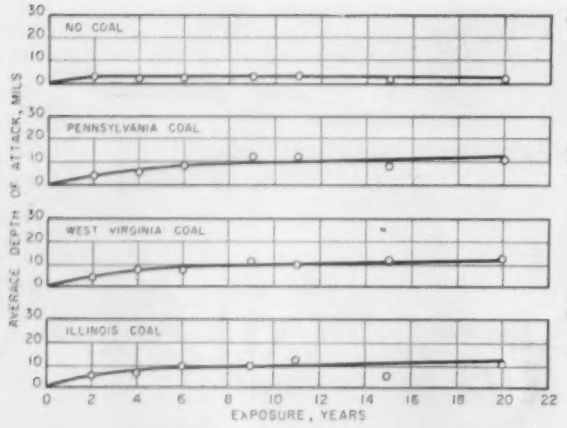


AFTER 14½ YEARS, interior surfaces of B&O hopper were in excellent condition with little evidence of corrosion (depth of attack averaged 0.010 in.).

Potential advantages of the use of aluminum for hopper cars have been recognized by the railroad industry as well as by the aluminum industry for more than two decades. In a development such as this, it is necessary to demonstrate these advantages by research data and by service experience. Information of this type, acquired over the past twenty years, is presented herein.

The growing interest of railroads in construction of lightweight hopper cars is well illustrated by the fact that nine major railroads have built a total of 74 hopper cars employing aluminum alloys. Construction of these cars used about 525,000 lb of aluminum, replacing about 800,000 lb of steel. Different amounts of aluminum were used, varying from the amount employed in all-aluminum cars to that in cars with only aluminum end and side sheets. Of course, ultimate savings from use of aluminum construction also may vary, depending upon the extent to which aluminum is used. Much of this ultimate saving can be realized through increased capacity and by elimination of painting and heavy repairs that would otherwise result in loss of hauling time.

The first hopper cars constructed of Alcoa aluminum were built in 1931 and 1932. One of these, built by a large eastern railroad, was exposed continuously to coal. Even after eight years of constant exposure, the



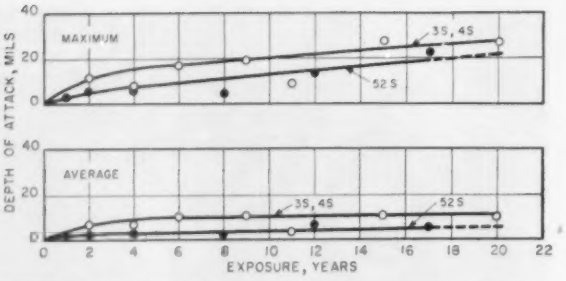
RESISTANCE of 4S alloy to corrosion with different types of coal. Note that resistance to high-sulfur (Illinois) coal compares with low-sulfur (Pennsylvania) coal.

car was in such good condition that it was estimated it would have withstood such conditions satisfactorily for many more years.

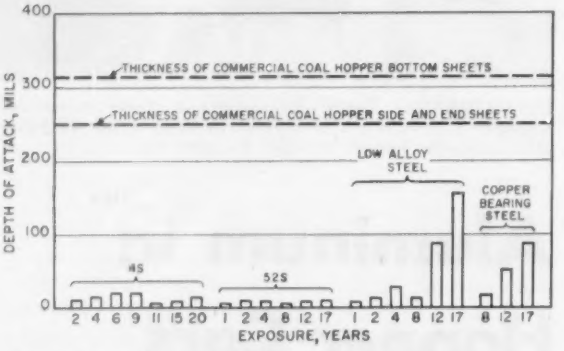
In 1931, the Aluminum Ore Company, an Alcoa subsidiary now known as the Refining division, purchased 10 all-aluminum cars. These cars were in coal and bauxite service until 1948, when they were placed in yard service, hauling coal, at the Alcoa (Tenn.) Works. Because of the high daily mileage traveled by these cars, their 17 years of railroad operation have been estimated to be equivalent to 39 years of ordinary service. Today, after 22 years of use, the cars are still in operation and have shown excellent resistance to corrosion, requiring little maintenance from this particular cause.

An analysis made some years ago of the Association of American Railroads' standard 50-ton hopper car shows that, with an all-aluminum body and underframe, a weight saving of 12,270 lb over a similar car fabricated from steel is possible. To obtain the most economical advantage of this weight saving, the car should be increased in length to provide more lading capacity. In this case, as much as 200 cu ft additional capacity, equivalent to about 6.13 tons of coal, is obtained. In 1945, a large midwestern railroad constructed 25 aluminum alloy hopper cars in which additional capacity was obtained through this design feature.

Concurrent with initiation of the preceding field tests, an investigation was started in 1932 to determine the suitability of aluminum alloys for hopper car construction. Four small hoppers, composed entirely of aluminum alloys and capable of holding about one ton of coal, were constructed and erected in the yard of the Alcoa Aluminum Research Laboratories at New Kensington, Pa. These hoppers were of riveted construction and employed vertical end sheets of Alcoa alloys 17S-T4 and A17S-T4 and sloping side sheets of Alcoa alloys 3S-H12 and 4S-H32. Different types of coal were placed in each of three hoppers in an effort to determine the effects of a high sulphur content coal (Illinois), an intermediate sulphur content coal (West Virginia), and a low sulphur-bearing coal (Pennsylvania) on performance of the various alloys. One hopper remained empty.



DEPTHS OF ATTACK, average and maximum, of aluminum alloy (3S, 4S and 52S) parts of experimental hoppers containing Illinois coal.



DEPTH OF ATTACK of aluminum and steel parts of the experimental coal hoppers in relation to the recommended thickness of material for commercial coal hopper cars.

In 1935, another hopper composed of vertical end sections of copper-bearing steel and sloping side sheets of high strength-low alloy steel and Alcoa 52S-H32 was added to the test. There was a threefold purpose in inclusion of this hopper in the test: (1) To determine the performance of Alcoa 52S alloy under these conditions; (2) to determine if aluminum alloys could be used satisfactorily in contact with steel in coal service, and (3) to study ferrous materials often used in this application, as a basis for comparison for the aluminum alloy hoppers previously installed. Without such a comparison the test data would be difficult to interpret. This composite hopper was filled with Illinois coal in order to be comparable with one of the hoppers composed entirely of aluminum alloys.

The coal employed in each of these hoppers was removed and replaced with coal of the same type about every two years throughout the test. At the time of each coal change, the component parts were given at least cursory examination. Since these hoppers have now been exposed for periods of from 17 to 20 years (which exceeds appreciably the average life of a conventional hopper car without major repairs) the most extensive examination was carried out at this time. These examinations included a detailed visual inspection of all component parts and microscopic examination and tensile tests of typical samples removed from representative areas of each hopper.

After a period of 20 years, all hoppers composed entirely of aluminum alloys were in good condition. The empty hopper revealed only mild weathering typical of that of materials exposed for this period to the industrial

atmospnere at New Kensington, Pa., while the hoppers containing the various types of coal revealed mild to moderate general attack and discoloration from the coal. All hoppers containing coal were in about the same condition, indicating that the several aluminum alloys had resisted attack by the various types of coal to about the same extent. In no case had corrosion affected the structural integrity of the hoppers to any great extent.

Similar examinations of the composite hopper after 17 years' testing disclosed that the 52S aluminum alloy members were performing in much the same manner as the other alloys in the all-aluminum hoppers. However, the low alloy steel members had suffered severe thinning and large perforations during this period. The copper-bearing steel sections were somewhat less affected, although they had suffered appreciable thinning.

Microscopic examination and tensile test generally substantiated the visual inspection. All the aluminum alloys had suffered relatively small losses in tensile strength. Such losses in the 0.188-in thick 3S-H12 and 52S-H32 ranged from 13 to 18%, while those in the 0.250-in. thick 4S-H32 varied from 6 to 9% after these extended periods (17-20 years), of exposure. It also was observed that the rate of attack of these alloys where contacting coal had decreased markedly with exposure time.

These tests also confirmed the relatively poor appearance of the steel members in the composite hopper. Because of the large perforations, the low alloy steel (0.156-in. thick) had lost 100% in tensile strength, while the copper-bearing steel (0.188-in. thick) lost 40%.

Favorable results of aluminum alloys in these laboratory tests have been corroborated by results of similar detailed examination of representative portions of all-aluminum hopper cars after 14½ to 22 years' service handling coal.

Choice of Alloy

A wide variety of suitable aluminum alloys is available for use in hopper cars. The heat-treatable alloys 61S and 62S, and strain-hardenable alloys 4S, 52S, A54S, and XC56S, can be employed in hopper cars. Alloys A54S and XC56S are particularly adapted to welding applications, since they can be welded in certain tempers (0, F and H112) without any appreciable decrease in strength in weld area. The 61S and 62S alloys are especially suited to riveted applications, although they are sometimes employed in welded construction, while 4S and 52S alloys can be used in either welded or riveted construction. The latter alloys, however, are most commonly employed in riveted applications.

Conclusions

Twenty years' experience with experimental hoppers, fortified by a similar length of service with limited field installations, strongly indicates that aluminum-alloy hopper cars can be used with great advantage by railroads. The outstanding characteristics of these alloys, particularly light weight and good resistance to corrosion, contribute most to their possible future use in railroad service.

Benchmarks and Yardsticks

YOUR REPORTER REGRETS to admit his inability to detect *any* considerable body of public opinion in this country which is really loyal to the principles of free enterprise. There are a few lonesome *individuals* who believe deeply in these principles—and some of these individuals are businessmen. But, certainly, free enterprise is not genuinely advocated or defended by any important business group. The most any organized body of businessmen will do is to favor freedom and absence of government competition for themselves. But as for similar rights for anybody else, the heck with them.

Many if not most business organizations (and both major political parties) not only acquiesce in the spread of socialism but actively foster it in one form or another. Take highways for instance: The country needs more and better highways, and investors have shown their growing eagerness to provide such facilities in large quantity, in the form of toll roads. Nevertheless, in spite of plain evidence that here is an area where private investment is ready to do what is necessary—the federal government has just doubled the national treasury's "federal aid" handout. Are the nation's taxpayers so underburdened that they can afford to be adding to transportation plant which, to all appearances, would so readily be provided by private investment?

The St. Lawrence Seaway, of course, is a complete stultification of all private enterprise principles; and its leading advocates, all along, have been big business interests and alleged "conservatives." Herbert Hoover, more than any other one individual, and undoubtedly with the very best of intentions, gave this project its initial impetus —as he did also other major inland waterway ventures. It was soon discovered that there were votes in these things for politicians and dollars in them for a lot of organized businesses. In the general appetite for power and easy money, principle encountered an adversary who is rather hard to overcome.

Probably few of the socialists in the ranks of business and politics are conscious of what they are doing. They have not yet wakened to the fact that in thus favoring socialism where it will help them, they are destroying all the defenses that could be used against socialism where it will harm them.

Once the principle of leaving the provision of economic goods and services to private enterprise is breached—it is like one of those breaks in a levee along a flooded river. Unless it is repaired quickly the whole levee is apt to go. It certainly will go unless the citizens awaken soon to what is going on. J.G.L.

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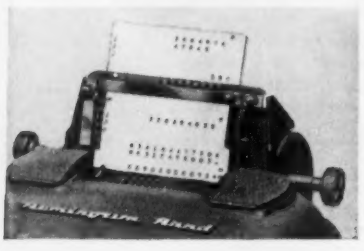

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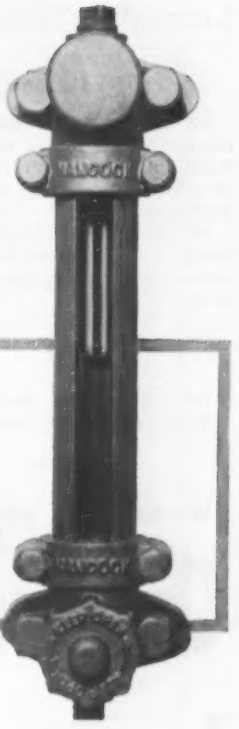

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Current Publications

PERIODICAL ARTICLES

THE SANTA FE CASE: UNION SHOP VS. HUMAN RIGHTS, by Leo Wolman. Nation's Business, May 1954, p. 25. Chamber of Commerce of the United States, 1615 H st., N.W., Washington 6, D.C.

Mr. Wolman, well-known labor economist, discusses issues involved in this case which tests legality of the union shop.

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THE TRAINS FIGHT BACK, by Peter J. Colliers. Town Journal, May 1954, p. 28. Farm Journal, 230 W. Washington sq., Philadelphia 5. Single copies, 20¢.

The rails are fighting back with an all-out effort for glamor, comfort, service and speed—spurred by competition from airlines, automobiles and buses.

BOOKS

COLLECTIVE BARGAINING IN THE RAILROAD INDUSTRY, by Jacob J. Kaufman. 235 pages. King's Crown Press, Columbia University, 2960 Broadway, New York 27, $3.75.

Part I discusses the importance of the railroad industry to the national economy. The impact of the financial condition and increasing mechanization of the industry upon employment and working conditions of railroad workers is analyzed; and a description of labor organizations and a history of governmental intervention in railway labor disputes are presented. Part II is concerned chiefly with causes of the breakdown of the Railway Labor Act in settling labor disputes. Part III consists of a discussion of the pros and cons of withholding from railroad workers the right to strike, and considers implications of such public policy. Part IV sets forth conclusions and recommendations.

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HISTORY OF AMERICAN INDUSTRIAL SCIENCE, by Courtney Robert Hall. 453 pages. Library Publishers, 8 W. 40th st., New York 18. $4.95.

Sixty of the leading corporations in America furnished material for this book, giving it a current character; at the same time ample attention has been given to the historic development of industry. Prof. Hall has interpreted a wide variety of concise facts on American industry in terms of such vital matters as national defense and possibilities of future social and political developments in the western world. After reviewing development of the industrial system he discusses transportation; chemicals; electrical and communications industries; mining and metallurgy; non-metallic minerals; rubber and rubber products; pulp, paper and print; feeding, cleaning and clothing; and precision in American industrial science.

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LOCOMOTIVES IN OUR LIVES, by A. Sheldon Pennoyer. 238 pages, illustrations. Hastings House, 41 E. 50th st., New York 22. $5.

It is perhaps unusual for three brothers with careers as different as diplomacy, painting and law to get jointly and severally such pleasure and satisfaction as the three Pennoyer brothers have found in their railway experiences. In this book, Sheldon Pennoyer passes on to others some of the enjoyment they derived from pursuit of their hobby, illustrating the story out of their collection of models, paintings, correspondence and other available material.

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SERVICES AND PRODUCTS — GENERAL AMERICAN TRANSPORTATION CORPORATION. 47 pages, illustrations. General American Transportation Corporation, 135 South LaSalle st., Chicago 90.

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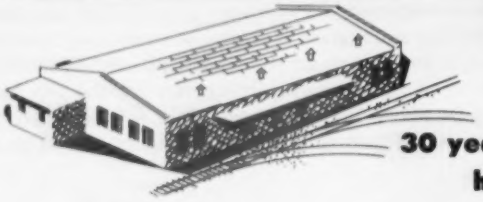

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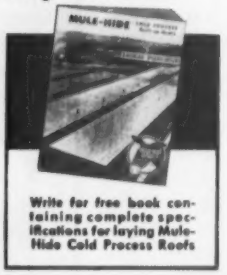

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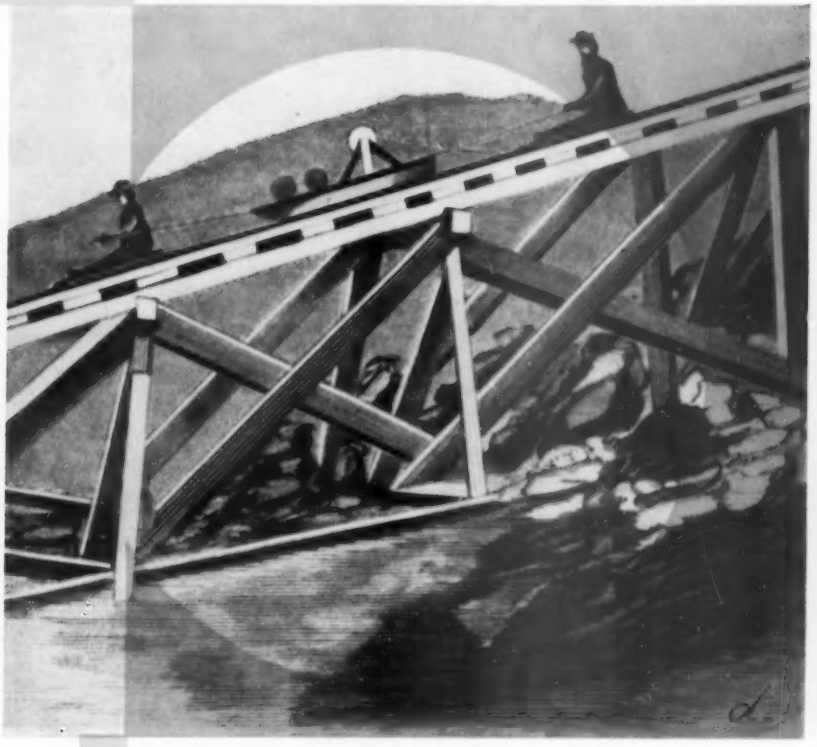

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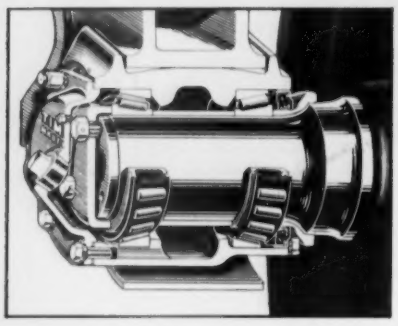

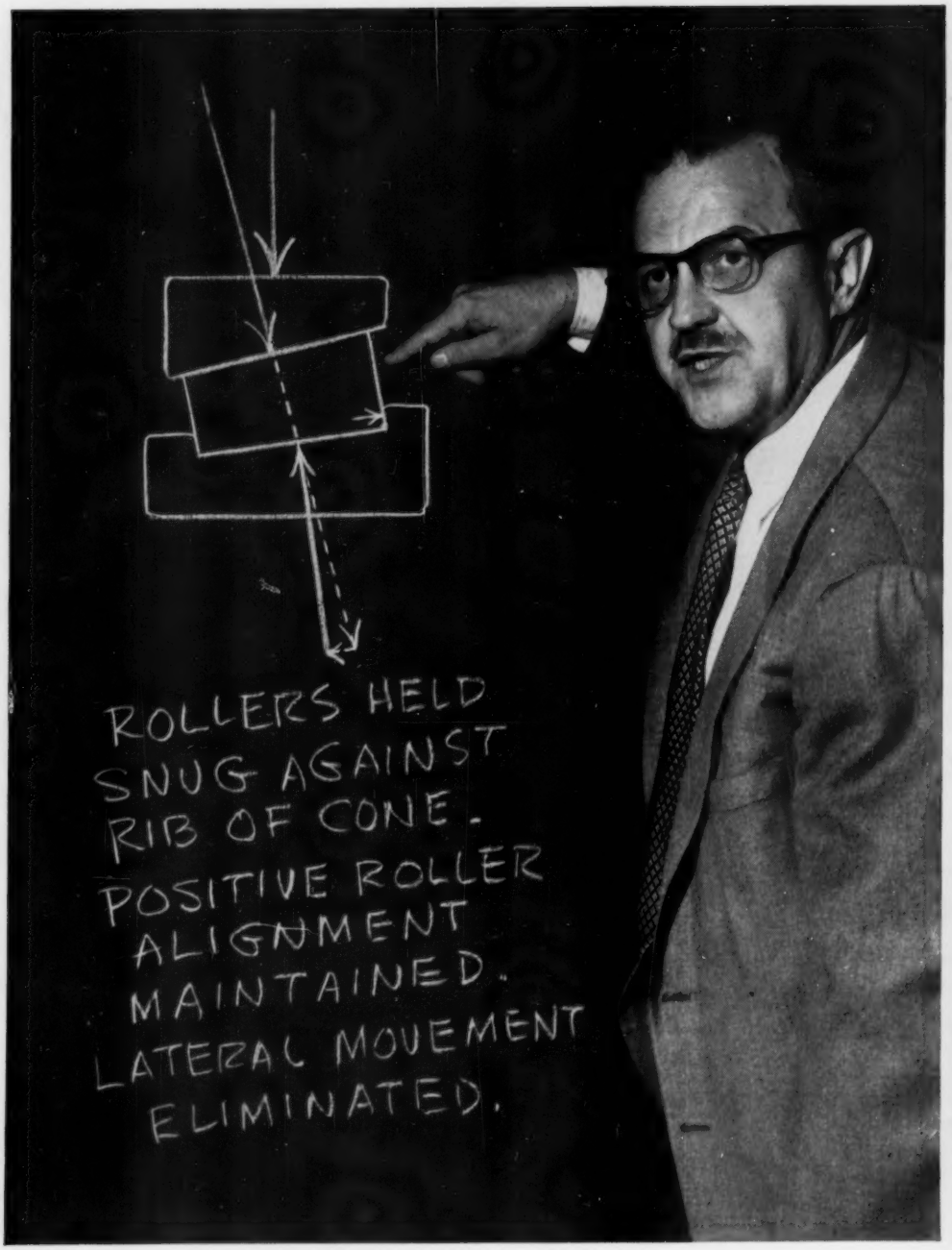

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